H 5

```
FFFFFFFFFFFFFFF         111              111        XXX         XXX
FFFFFFFFFFFFFFF         111              111        XXX         XXX
FFFFFFFFFFFFFFF         111              111        XXX         XXX
FFF                  111111           111111        XXX         XXX
FFF                  111111           111111        XXX         XXX
FFF                  111111           111111        XXX         XXX
FFF                     111              111           XXX   XXX
FFF                     111              111           XXX   XXX
FFF                     111              111           XXX   XXX
FFFFFFFFFFFF            111              111              XXX
FFFFFFFFFFFF            111              111              XXX
FFFFFFFFFFFF            111              111              XXX
FFF                     111              111           XXX   XXX
FFF                     111              111           XXX   XXX
FFF                     111              111           XXX   XXX
FFF                     111              111        XXX         XXX
FFF                     111              111        XXX         XXX
FFF                     111              111        XXX         XXX
FFF                  111111111        111111111     XXX         XXX
FFF                  111111111        111111111     XXX         XXX
FFF                  111111111        111111111     XXX         XXX
```

```
_$25

Symb
----
IOC1
IO_C
IO_C
IO_D
IO_F
IO_S
KILL

KILL
KILL
LB_E
LB_D
LB_F
LB_K
LB_L
LOCA
LOCA
LOCK

LOCK
LOCK
LOCK
LOC_
LOC_
L_CO
L_CO
L_DA
L_DA
MAIN
MAKE
MAKE
MAKE
MAKE
MAKE
MAKE

MAKE
MAKE
MAP_
MAP_

MAP
MARK
MARK
MARK
MARK
MARK
```

```
**FILE**ID**CREATE                                  K 15


     CCCCCCCC  RRRRRRRR    EEEEEEEEEE    AAAAAA    TTTTTTTTTT  EEEEEEEEEE
     CCCCCCCC  RRRRRRRR    EEEEEEEEEE    AAAAAA    TTTTTTTTTT  EEEEEEEEEE
   CC          RR      RR  EE          AA      AA      TT      EE
   CC          RR      RR  EE          AA      AA      TT      EE
   CC          RR      RR  EE          AA      AA      TT      EE
   CC          RR      RR  EE          AA      AA      TT      EE
   CC          RRRRRRRR    EEEEEEEE    AA      AA      TT      EEEEEEEE
   CC          RRRRRRRR    EEEEEEEE    AA      AA      TT      EEEEEEEE
   CC          RR  RR      EE          AAAAAAAAAA      TT      EE
   CC          RR  RR      EE          AAAAAAAAAA      TT      EE
   CC          RR    RR    EE          AA      AA      TT      EE                ....
   CC          RR    RR    EE          AA      AA      TT      EE                ....
     CCCCCCCC  RR      RR  EEEEEEEEEE  AA      AA      TT      EEEEEEEEEE        ....
     CCCCCCCC  RR      RR  EEEEEEEEEE  AA      AA      TT      EEEEEEEEEE        ....


   LL            IIIIII      SSSSSSSS
   LL            IIIIII      SSSSSSSS
   LL              II      SS
   LL              II      SS
   LL              II      SS
   LL              II      SS
   LL              II        SSSSSS
   LL              II        SSSSSS
   LL              II              SS
   LL              II              SS
   LL              II              SS
   LL              II              SS
   LLLLLLLLLL    IIIIII    SSSSSSSS
   LLLLLLLLLL    IIIIII    SSSSSSSS
```

CR
VO

```
0 MODULE CREATE (
0                       LANGUAGE (BLISS32),
0                       IDENT = 'V04-001'
0                       ) =
1 BEGIN
1
1 !
1 !****************************************************************************
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1 !*                                                                          *
1 !****************************************************************************
1
1 !++
1 !
1 ! FACILITY:  F11ACP Structure Level 2
1 !
1 ! ABSTRACT:
1 !
1 !       This module processes the create function. It creates a file with the
1 !       attributes requested, enters it in a directory if desired, and
1 !       accesses it if requested.
1 !
1 ! ENVIRONMENT:
1 !
1 !       STARLET operating system, including privileged system services
1 !       and internal exec routines.
1 !
1 !--
1 !
1 !
1 ! AUTHOR:  Andrew C. Goldstein,  CREATION DATE:  28-Mar-1977  15:05
1 !
1 ! MODIFIED BY:
1 !
1 !       V04-001 CDS0006         Christian D. Saether    12-Sep-1984
1 !               Modify test for re-reading file header after ENTER
1 !               (CDS0004).
1 !
1 !       V03-042 CDS0005         Christian D. Saether    31-Aug-1984
```

```
1 !                  Defer building of ACL's until after initial extend
1 !                  takes place so that the map pointer for a contiguous
1 !                  file is in the primary header.
1 !
1 !         V03-041 CDS0004         Christian D. Saether    30-Aug-1984
1 !                  Reread newly created header after ENTER because
1 !                  it may have been flushed from the cache by a multi
1 !                  header directory file.
1 !
1 !         V03-040 CDS0013         Christian D. Saether    14-Aug-1984
1 !                  Modify creation of extension fcb chain, if necessary.
1 !
1 !         V03-039 LMP0298         L. Mark Pilant,         7-Aug-1984  16:22
1 !                  Add the necessary protection checks for create-if.
1 !
1 !         V03-038 ACG0438         Andrew C. Goldstein,    1-Aug-1984  21:23
1 !                  Fix link truncation error; release any existing
1 !                  serialization lock before starting create
1 !
1 !         V03-037 LMP0288         L. Mark Pilant,         29-Jul-1984  13:56
1 !                  Make sure that the ACL queue head of the new file is properly
1 !                  initialized when copying the ACL from a prior version (this
1 !                  bug introcuded in LMP0284.)
1 !
1 !         V03-036 LMP0284         L. Mark Pilant,         26-Jul-1984  12:14
1 !                  Fix call to ACL_INIT_QUEUE, since it was moved to ACLSUBR.
1 !
1 !         V03-035 ACG0440         Andrew C. Goldstein,    25-Jul-1984  14:27
1 !                  Move setup of default access ACE to after attributes are written
1 !
1 !         V03-034 LMP0275         L. Mark Pilant,         23-Jul-1984  14:40
1 !                  Don't try to propagate an ACL if there isn't one.
1 !
1 !         V03-033 ACG0437         Andrew C. Goldstein,    13-Jul-1984  15:27
1 !                  Corrections to alternate file ownership: fix interface to
1 !                  CHANGE_OWNER so that next version propagation works and
1 !                  so that space charging is done correctly. Also add an
1 !                  ACL entry for the creator to guarantee access.
1 !
1 !         V03-032 CDS0012         Christian D. Saether    29-Jun-1984
1 !                  Add another call to read_header after copying info
1 !                  in propagate_attr because primary header may have
1 !                  been flushed from the cache.
1 !
1 !         V03-031 CDS0011         Christian D. Saether    22-Apr-1984
1 !                  Modify access arbitration.
1 !
1 !         V03-030 CDS0010         Christian D. Saether    11-Apr-1984
1 !                  Remove call to allocation_unlock after create_header
1 !                  call because that routine does it now.
1 !
1 !         V03-029 CDS0009         Christian D. Saether     1-Apr-1984
1 !                  Call ALLOCATION_UNLOCK prior to deleting previous file
1 !                  version in supersede operations to eliminate possible
1 !                  deadlock condition if the previous version is being
1 !                  extended at the same time.
1 !                  Also call ALLOCATION_UNLOCK after an ENTER because it
```

```
1 !                 may have extended the directory and thus be holding the
1 !                 allocation lock, also causing potential deadlock further
1 !                 on in a number of ways.
1 !
1 !         V03-028 ACG0412         Andrew C. Goldstein,    22-Mar-1984  18:19
1 !                 Implement agent access mode support; add access mode to
1 !                 check protection call; make attribute propagation to self
1 !                 a NOP (when a file is entered as a new version of itself).
1 !
1 !         V03-027 ACG0408         Andrew C. Goldstein,    20-Mar-1984  17:54
1 !                 Make APPLY_RVN and DEFAULT_RVN macros;
1 !                 Make rest of global storage based.
1 !
1 !         V03-026 ACG0405         Andrew C. Goldstein,    16-Mar-1984  15:12
1 !                 Fix handling of file headers in CHANGE_OWNER
1 !
1 !         V03-025 CDS0008         Christian D. Saether     9-Mar-1984
1 !                 Remember CURR_LCKINDX from primary context and set
1 !                 it in secondary after OPEN_FILE so that copy_info
1 !                 has the right lock basis when writing acl's to the
1 !                 primary file's header.
1 !
1 !         V03-024 LMP0203         L. Mark Pilant,         29-Feb-1984  10:34
1 !                 Add support for FIB$V_PROPAGATE.  This allow the propagation
1 !                 rules to apply on an enter operation as well as a create
1 !                 operation.
1 !
1 !         V03-023 LMP0189         L. Mark Pilant,          6-Feb-1984  13:54
1 !                 Add support for FIB$V_DIRACL.  This allows the ACL of a
1 !                 directory file parent to be copied directly to the
1 !                 children (with the exception of NOPROPAGATE ACEs).
1 !
1 !         V03-022 LMP0188         L. Mark Pilant,          3-Feb-1984  16:08
1 !                 Add support for a classification block.
1 !
1 !         V03-021 CDS0007         Christian D. Saether    17-Jan-1984
1 !                 Modify interface to DEFAULT_RVN.
1 !
1 !         V03-020 CDS0006         Christian D. Saether    27-Dec-1983
1 !                 Use BIND_COMMON macro.
1 !
1 !         V03-019 LMP0174         L. Mark Pilant,          1-Dec-1983  14:01
1 !                 Change routine name for default ACE propagation.  Also,
1 !                 Add a call to a routine to do general propagation.
1 !
1 !         V03-018 CDS0005         Christian D. Saether    14-Sep-1983
1 !                 Modify interface to SERIAL_FILE routine.
1 !
1 !         V03-017 ACG56916        Andrew C. Goldstein,    21-Jun-1983  18:25
1 !                 Use central routine for date management
1 !
1 !         V03-016 LMP0156         L. Mark Pilant,         19-Sep-1983  15:43
1 !                 Files not entered into a directory now get the process
1 !                 default protection.
1 !
1 !         V03-015 LMP0149         L. Mark Pilant,         13-Sep-1983  11:25
1 !                 Correct a logic problem that caused problems during the
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```
1 !                     protection check of a write attribute operation.
1 !
1 !             V03-014 LMP0148         L. Mark Pilant,         31-Aug-1983  13:29
1 !                     Make sure propagated attributes make it to the header.
1 !
1 !             V03-013 CDS0004         Christian D. Saether    16-May-1983
1 !                     Release allocation lock after newly allocated file
1 !                     header is locked.
1 !
1 !             V03-012 CDS0003         Christian D. Saether     4-May-1983
1 !                     Add call to SERIAL_FILE routine to interlock file
1 !                     processing.
1 !
1 !             V03-011 CDS0002         Christian D. Saether     9-Apr-1983
1 !                     Reflect change to ACCESS_LOCK interface.
1 !
1 !             V03-010 ACG0323         Andrew C. Goldstein,    25-Mar-1983  15:51
1 !                     Simplify backlink handling to track RENAME changes
1 !
1 !             V03-009 ACG53759        Andrew C. Goldstein,    24-Mar-1983  15:10
1 !                     Update revision date & count & expiration on ENTER
1 !
1 !             V03-008 LMP0091         L. Mark Pilant,         18-Mar-1983  16:14
1 !                     Add a condition handler to the attribute propagation to
1 !                     catch non-existant files.  Also, copy the entire file name
1 !                     when creating a long file named file.
1 !
1 !             V03-007 LMP0080         L. Mark Pilant,         14-Feb-1983  16:16
1 !                     Add a new routine that is called to propagate the attributes
1 !                     from either the previous version of the file or the parent
1 !                     directory as necessary.
1 !
1 !             V03-006 ACG53050        Andrew C. Goldstein,    31-Jan-1983  13:59
1 !                     Remove RVN check from check for dummy file ID
1 !
1 !             V03-005 CDS0001         Christian D. Saether    12-Jan-1983
1 !                     Call routine to take out file access lock.
1 !
1 !             V03-004 LMP0059         L. Mark Pilant,         21-Dec-1982  11:17
1 !                     Always create an FCB when accessing a file header.  This
1 !                     eliminates a lot of special casing in FCB handling.
1 !
1 !             V03-003 LMP0047         L. Mark Pilant,         29-Sep-1982  12:05
1 !                     Put back in the volume protection check deleted by LMP0036.
1 !
1 !             V03-002 LMP0036         L. Mark Pilant,          5-Aug-1982  13:50
1 !                     Shuffle the order that the protection checks are done to
1 !                     allow for ACL's.
1 !
1 !             V03-001 LMP0016         L. Mark Pilant,         25-Mar-1982  13:18
1 !                     Remove diddling of the COMPLETE bit in the window segments.
1 !
1 !             V02-021 ACG0265         Andrew C. Goldstein,    15-Feb-1982  9:50
1 !                     Fix order of expiration date handling
1 !
1 !             V02-020 ACG0258         Andrew C. Goldstein,    26-Jan-1982  16:57
1 !                     Fix reference to RVN 1 in expiration date processing
```

```
1 !
1 !         V02-019 ACG0230          Andrew C. Goldstein,    23-Dec-1981  22:59
1 !                 Add expiration date support
1 !
1 !         V02-018 ACG0247          Andrew C. Goldstein,    23-Dec-1981  20:44
1 !                 Set revision date to creation date
1 !
1 !         V02-017 ACG0245          Andrew C. Goldstein,    23-Dec-1981  20:40
1 !                 Don't write back link if file is a spool file
1 !
1 !         V02-016 LMP0003          L. Mark Pilant,  8-Dec-1981  10:20
1 !                 Added byte limit quota check on window creation.
1 !
1 !         V02-015 ACG0238          Andrew C. Goldstein,    11-Dec-1981  23:30
1 !                 Allow creation of dummy directory entries
1 !
1 !         V02-014 ACG0208          Andrew C. Goldstein,    17-Nov-1981  15:16
1 !                 Add segmented directory reccrd support
1 !
1 !         V02-013 ACG0167          Andrew C. Goldstein,    16-Apr-1980  19:25
1 !                 Previous revision history moved to F11B.REV
1 !**
1
1
1 LIBRARY 'SYS$LIBRARY:LIB.L32';
1 REQUIRE 'SRC$:FCPDEF.B32';
1
1
1 FORWARD ROUTINE
1         CREATE            : L_NORM,         ! CREATE function routine
1         PROPAGATE_ATTR    : L_NORM,         ! Propagate file attributes
1         PROPAGATE_HANDLER,                  ! condition handler for above
1         COPY_INFO         : L_NORM;         ! Copy info from old to new file
```

```
GLOBAL ROUTINE CREATE : L_NORM =

!++
!
! FUNCTIONAL DESCRIPTION:
!
!	This routine processes the CREATE function. It creates a file with the
!	attributes requested, enters it in a directory if desired, and
!	accesses the file if requested.
!
! CALLING SEQUENCE:
!	CREATE ()
!
! INPUT PARAMETERS:
!	NONE
!
! IMPLICIT INPUTS:
!	CURRENT_VCB: VCB of volume
!	IO_PACKET: packet of this I/O request
!
! OUTPUT PARAMETERS:
!	NONE
!
! IMPLICIT OUTPUTS:
!	PRIMARY_FCB: FCB of file if accessed
!	CURRENT_WINDOW: window of file if accessed
!	USER_STATUS: I/O status block of user
!
! ROUTINE VALUE:
!	1 if successful
!	0 if error
!
! SIDE EFFECTS:
!	File created, blocks allocated, directory modified, file accessed, etc.
!
!--

BEGIN

LITERAL
	ACE_LENGTH	= $BYTEOFFSET (ACE$L_KEY) + 4;

LOCAL
	STATUS,				! general return status
	K,				! miscellaneous constant
	FCB_CREATED,			! flag indicating new FCB created
	PACKET		: REF BBLOCK,	! address of I/O packet
	ABD		: REF BBLOCKVECTOR [,ABD$C_LENGTH],
					! buffer descriptors
	FIB		: REF BBLOCK,	! file identification block
	RESULT_LENGTH,			! length of result string from ENTER
	RESULT		: VECTOR [FILENAME_LENGTH+6, BYTE],
					! result string from ENTER
	LINK_DID	: BBLOCK [FID$C_LENGTH], ! header back link
	IDENT_AREA	: REF BBLOCK,	! pointer to file header ident area
	PCB		: REF BBLOCK,	! requestor PCB address
	ARB		: REF BBLOCK,	! access rights block of caller
```

```
        MAP_AREA        : REF BBLOCK,   ! file header map area
        IDX_FCB         : REF BBLOCK,   ! FCB of index file
        FCB             : REF BBLOCK,   ! FCB address
        UCB             : REF BBLOCK,   ! UCB pointer for RVN 1
        PRIMARY_VCB     : REF BBLOCK,   ! VCB of root volume
        HEADER          : REF BBLOCK,   ! address of file header
        NEW_HEADER      : REF BBLOCK,   ! Address of extension header
        ACL_CONTEXT,                    ! dummy ACL context longword
        ACE             : BBLOCK [ACE_LENGTH], ! buffer for ACE for file creator
        FUNCTION        : BLOCK [1];    ! function code qualifiers

EXTERNAL
        ACP$GB_WRITBACK : BITVECTOR ADDRESSING_MODE (ABSOLUTE),
                                        ! ACP write back cache enable
        SCH$GL_PCBVEC   : REF VECTOR ADDRESSING_MODE (ABSOLUTE), ! PCB vector
        EXE$GL_DYNAMIC_FLAGS    : ADDRESSING_MODE (ABSOLUTE);
                                        ! Dynamic SYSGEN flags

EXTERNAL LITERAL
        EXE$V_CLASS_PROT;               ! Set if doing non-discretionary checks

BIND_COMMON;

EXTERNAL ROUTINE
        ACL_DELETEACL   : ADDRESSING_MODE (GENERAL),! delete acls
        UPDATE_FCB      : L_NORM,       ! rebuild fcb from header
        REBLD_PRIM_FCB  : L_NORM NOVALUE, ! rebuild primary fcb from header
        BUILD_EXT_FCBS  : L_NORM NOVALUE, ! build extension fcb chain
        RELEASE_SERIAL_LOCK : L_NORM,   ! release file synchronization lock
        ALLOCATION_UNLOCK : L_NORM,     ! synchronize allocation/deallocation
        ARBITRATE_ACCESS : L_JSB_2ARGS, ! establish file access.
        CONV_ACCLOCK    : L_NORM,       ! convert/dequeue access lock.
        SERIAL_FILE     : L_NORM,       ! interlock file processing.
        GET_FIB         : L_NORM,       ! get FIB for operation
        GET_LOC_ATTR    : L_NORM,       ! get placement data form attribute list
        GET_LOC         : L_NORM,       ! get placament data
        SWITCH_VOLUME   : L_NORM,       ! switch context to specified volume
        SELECT_VOLUME   : L_NORM,       ! find volume in volume set for create
        CHECK_PROTECT   : L_NORM,       ! check file protection
        CHARGE_QUOTA    : L_NORM,       ! charge blocks to user's disk quota
        CREATE_HEADER   : L_NORM,       ! create a file ID and header
        CHECKSUM        : L_NORM,       ! compute header checksum
        MARK_DIRTY      : L_NORM,       ! mark buffer for write-back
        ACL_INIT_QUEUE  : ADDRESSING_MODE (GENERAL),    ! Initialize ACL queue
        ACL_ADDENTRY    : ADDRESSING_MODE (GENERAL),    ! add entry to ACL
        ACL_BUILDACL    : ADDRESSING_MODE (GENERAL) L_NORM, ! build ACL into file headers
        READ_HEADER     : L_NORM,       ! read file header
        ENTER           : L_NORM,       ! enter file in directory
        COPY_NAME       : L_NORM,       ! copy file name to result string
        SET_REVISION    : L_NORM,       ! set file revision and exp dates
        CREATE_FCB      : L_NORM,       ! create an FCB
        CREATE_WINDOW   : L_NORM,       ! create a window
        SET_EXPIRE      : L_NORM,       ! enable expiration date recording
        MAKE_ACCESS     : L_NORM,       ! complete the access
        MARKDEL_FCB     : L_NORM,       ! mark FCB for delete
        WRITE_ATTRIB    : L_NORM,       ! write attributes
        EXTEND          : L_NORM,       ! extend the file
```

```
2          SAVE_CONTEXT    : L_NORM,          ! save reentrant context area
2          RESTORE_CONTEXT : L_NORM,          ! restore reentrant context area
2          MARK_DELETE     : L_NORM,          ! mark file for delete
2          REMAP_FILE      : L_NORM,          ! remap the file completely
2          SEARCH_FCB      : L_NORM ADDRESSING_MODE (GENERAL); ! Search FCB list
2
2
2 ! Enable the deaccess cleanup if an access is taking place.
2 !
2
2 PACKET = .IO_PACKET;
2 FUNCTION = .PACKET[IRP$W_FUNC];
2 IF .FUNCTION[IO$V_ACCESS]
2 THEN
3     BEGIN
3     CLEANUP_FLAGS[CLF_ZCHANNEL] = 1;
3     CLEANUP_FLAGS[CLF_DELWINDOW] = 1;
2     END;
2
2 ! Set up pointers to interesting control blocks.
2 !
2
2 PCB = .SCH$GL_PCBVEC[.(IO_PACKET[IRP$L_PID])<0,16>];
2 ABD = .BBLOCK [.PACKET[IRP$L_SVAPTE], AIB$L_DESCRIPT];
2                                             ! pointer to buffer descriptors
2 FIB = GET_FIB (.ABD);                        ! pointer to FIB
2
2 IF .FIB[FIB$V_TRUNC]
2 OR .FIB[FIB$W_VERLIMIT] GTRU 32767
3 OR (.FUNCTION[IO$V_DELETE] AND NOT .FUNCTION[IO$V_ACCESS])
3 OR (NOT .FUNCTION[IO$V_CREATE]
4     AND (.FIB[FIB$V_EXTEND]
4         OR .PACKET[IRP$W_BCNT] GTR ABD$C_ATTRIB
4         OR .FUNCTION[IO$V_ACCESS]
4         )
3     )
2 THEN ERR_EXIT (SS$_BADPARAM);
2
2 IF .CURRENT_VCB[VCB$V_NOALLOC]
2 THEN ERR_EXIT (SS$_WRITLCK);
2
2 ! Do the create if requested. Start by allocating a file number from the
2 ! index file bitmap and reading in the initial file header.
2 !
2
2 IF .FUNCTION[IO$V_CREATE]
2 THEN
3     BEGIN
3
3 ! Deal with special cases related to create-if. Release any serialization
3 ! lock we are holding, and force supersede mode to dispose of bad
3 ! directory entries.
3 !
3
3     IF .PACKET[IRP$V_FCODE] EQL IO$_ACCESS
3     THEN
4         BEGIN
```

```
4           IF .PRIM_LCKINDX NEQ 0
4           THEN
5               BEGIN
5               RELEASE_SERIAL_LOCK (.PRIM_LCKINDX);
5               PRIM_LCKINDX = 0;
4               END;
4           FIB[FIB$V_SUPERSEDE] = 1;
4
4   ! Finally, the protection check if the directory has been accessed.  This
4   ! is because the protection check is not done in DIR_ACCESS (via ENTER) if
4   ! the directory file has already been accessed.
4   !
4
4           IF .DIR_FCB NEQ 0
4           AND .CLEANUP_FLAGS[CLF_DIRECTORY]
4           AND NOT .CLEANUP_FLAGS[CLF_SPOOLFILE]
4           THEN
5               BEGIN
5               STATUS = CHECK_PROTECT (WRITE_ACCESS, 0, .DIR_FCB, 0,
6                                        (IF .BBLOCK [FIB[FIB$L_ALT_ACCESS], ARM$V_DELETE]
5                                         THEN ARM$M_WRITE ELSE 0),
5                                         .FIB[FIB$V_ALT_REQ]);
5               IF .STATUS EQL SS$_NOTALLPRIV
5               THEN FIB[FIB$V_ALT_GRANTED] = 0;
4               END;
3           END;
3
3   ! Handle any placement specified and find a suitable volume for the
3   ! file in a volume set.
3   !
3
3       FIB[FIB$V_PROPAGATE] = 0;                          ! Since propagation is implied
3       IF .FIB[FIB$V_ALLOCATR]
3       THEN GET_LOC_ATTR (.ABD, .FIB);
3       GET_LOC (.FIB, LOC_RVN, LOC_LBN);
3       IF .LOC_RVN NEQ 0
3       AND .FIB[FIB$V_EXACT]
3       THEN
3           SWITCH_VOLUME (.LOC_RVN)
3       ELSE
4           SELECT_VOLUME (.FIB, (IF .FIB[FIB$V_EXTEND]
4                                 THEN .FIB[FIB$L_EXSZ]
3                                 ELSE 0));
3
3       CHECK_PROTECT (CREATE_ACCESS, 0, 0, 0);      ! Check volume protection
3       IF .BBLOCK [CURRENT_UCB[UCB$L_DEVCHAR], DEV$V_SWL]
3       OR .CURRENT_VCB[VCB$V_NOALLOC]
3       THEN ERR_EXIT (SS$_WRITLCK);
3
3       HEADER = CREATE_HEADER (FIB[FIB$W_FID]);
3
3   ! Now build an initialized file header in the buffer.
3   !
3
3       ARB = .PACKET[IRP$L_ARB];
3
3       IF .EXE$GL_DYNAMIC_FLAGS<EXE$V_CLASS_PROT,1>
```

```
;  3        THEN HEADER[FH2$B_IDOFFSET] = FH2$C_FULL_LENGTH / 2
;  3        ELSE HEADER[FH2$B_IDOFFSET] = FH2$C_LENGTH / 2;
;  3        HEADER[FH2$B_MPOFFSET] = .HEADER[FH2$B_IDOFFSET] + FI2$C_LENGTH / 2;
;  3        HEADER[FH2$B_ACOFFSET] = ($BYTEOFFSET (FH2$W_CHECKSUM)) / 2;
;  3        HEADER[FH2$B_RSOFFSET] = ($BYTEOFFSET (FH2$W_CHECKSUM)) / 2;
;  3        HEADER[FH2$W_SEG_NUM] = 0;
;  3        HEADER[FH2$W_STRUCLEV] = FH2$C_LEVEL2 + 1;
;  3
;  3        CH$FILL (0, 512 - $BYTEOFFSET(FH2$W_EXT_FID), HEADER[FH2$W_EXT_FID]);
;  3        HEADER[FH2$L_FILEOWNER] = .ARB[ARB$L_UIC];
;  3        HEADER[FH2$W_FILEPROT] = .PCB[PCB$L_DEFPROT];
;  3
;  3        IF .FUNCTION[IO$V_DELETE]
;  3        THEN HEADER[FH2$V_MARKDEL] = 1;
;  3
;  3        IF .CLEANUP_FLAGS[CLF_SPOOLFILE]
;  3        THEN HEADER[FH2$V_SPOOL] = 1;
;  3
;  3        $ASSUME (ARB$S_CLASS EQL FH2$S_CLASS_PROT);
;  3
;  3        IF .EXE$GL_DYNAMIC_FLAGS<EXE$V_CLASS_PROT,1>
;  3        THEN CH$MOVE (ARB$S_CLASS, ARB[ARB$R_CLASS], HEADER[FH2$R_CLASS_PROT]);
;  3
;  3        NEW_FID = 0;                            ! new file ID is no longer unrecorded
;  3        CLEANUP_FLAGS[CLF_DELFILE] = 1;
;  3        CLEANUP_FLAGS[CLF_HDRNOTCHG] = 1;
;  3        FILE_HEADER = .HEADER;                  ! record header address for cleanup
;  3        CHECKSUM (.HEADER);
;  3
;  3    ! At this point build the necessary FCB, even if the file is not accessed.
;  3    ! This is necessary to allow the ACL to be built.
;  3    !
;  3
;  3        FCB = KERNEL_CALL (CREATE_FCB, .HEADER);
;  3        PRIMARY_FCB = .FCB;
;  2        END;
;  2
;  2    ! If a non-zero directory ID is supplied, enter the file in the directory.
;  2    ! Otherwise, just copy down the name string (if any) into the result string.
;  2    ! Note that directory operations are also nooped on spool files operations.
;  2    !
;  2
;  2    IF .CLEANUP_FLAGS[CLF_DIRECTORY] AND NOT .CLEANUP_FLAGS[CLF_SPOOLFILE]
;  2    THEN
;  3        BEGIN
;  3        CH$FILL (0, FID$C_LENGTH, OLD_VERSION_FID);
;  3        ENTER (.ABD, .FIB, RESULT_LENGTH, RESULT);
;  3
;  3    ! Always attempt to release the allocation lock here.  We will be holding
;  3    ! it if the directory was extended.  It might make more sense to release
;  3    ! it in the directory extension, but the call is relatively cheap.
;  3    !
;  3
;  3        ALLOCATION_UNLOCK ();
;  3
;  3    ! ENTER may have flushed the new buffer from the cache if either the
;  3    ! directory file header(s) and quota file header(s) were accessed and
```

```
3 ! there were multiple headers.  Make sure FILE_HEADER is what we think
3 ! it is.
3 !
3
3      IF .FUNCTION [IO$V_CREATE]
3      THEN
3          FILE_HEADER = READ_HEADER (0, .FCB);
3
3      IF .FUNCTION[IO$V_CREATE] OR .FIB[FIB$V_PROPAGATE]
3      THEN
4          BEGIN
4
4 ! If the CREATE modifier was not specified, then this must be a directory
4 ! entry operation.  In which case it is necessary to actually access the
4 ! file being entered, so that an FCB will exist for the propagation to
4 ! occur.
4
4          IF NOT .FUNCTION[IO$V_CREATE]
4          THEN
5              BEGIN
5
5 ! Switch context to the volume of the specified RVN.
5 !
5
5              SWITCH_VOLUME (.FIB[FIB$W_FID_RVN]);
5
5 ! Synchronize further processing on this file.
5 !
5
5              PRIM_LCKINDX = SERIAL_FILE (FIB [FIB$W_FID]);
5
5 ! Find the FCB of the file, if one exists. then read the file
5 ! header. If there is no FCB, create one.
5 !
5
5              FCB = SEARCH_FCB (FIB[FIB$W_FID]);
5              HEADER = READ_HEADER (FIB[FIB$W_FID], .FCB);
5              FCB_CREATED = 0;
5
5              IF .FCB EQL 0
5              THEN
6                  BEGIN
6                  FCB_CREATED = 1;
6                  FCB = KERNEL_CALL (CREATE_FCB, .HEADER);
5                  END;
5              PRIMARY_FCB = .FCB;                     ! record FCB for external use
5
5 ! If the file is multi-header, read the extension headers and create
5 ! extension FCB's as necessary. Finally read back the primary header.
5 !
5
5              IF .FCB_CREATED
5              THEN
5                  BUILD_EXT_FCBS (.HEADER)
5              ELSE
5                  IF .FCB [FCB$V_STALE]
5                  THEN
```

```
6                       BEGIN
6                       REBLD_PRIM_FCB (.PRIMARY_FCB, .HEADER);
6                       BUILD_EXT_FCBS (.HEADER);
5                       END;
5
5  ! Wipe out any acls that may have existed, because they are going
5  ! to be propagated.
5  !
5
5                   IF .BBLOCK [FCB [FCB$R_ORB], ORB$V_ACL_QUEUE]
5                   THEN
5                       ACL_DELETEACL (FCB [FCB$L_ACLFL], 0);
5
4                   END;
4
4  ! Now propagate the file attributes to the file just entered.
4
4               STATUS = PROPAGATE_ATTR (.FIB);
4               IF NOT .STATUS THEN ERR_EXIT (.STATUS);
4               HEADER = .FILE_HEADER;
4               HEADER[FH2$L_FILEOWNER] = .PRIMARY_FCB[FCB$L_FILEOWNER];
4               HEADER[FH2$W_FILEPROT] = .PRIMARY_FCB[FCB$W_FILEPROT];
4               CHECKSUM (.HEADER);
4               MARK_DIRTY (.HEADER);
3               END;
3           END
2       ELSE
3           BEGIN
3           KERNEL_CALL (COPY_NAME, .ABD);
3           RESULT_LENGTH = MINU (.ABD[ABD$C_NAME, ABD$W_COUNT], FI2$S_FILENAME+FI2$S_FILENAMEXT);
3           CH$MOVE (.RESULT_LENGTH,
3               .ABD[ABD$C_NAME, ABD$W_TEXT] + ABD[ABD$C_NAME, ABD$W_TEXT] + 1, RESULT);
2           END;
2
2  ! Read the file header, regardless of the operation. Do a protection check
2  ! on the directory pointed to by the present back link. If it is not valid,
2  ! or if write access is allowed, then overwrite the back link with the new
2  ! directory ID. Copy the file string into the header ident area. Then write
2  ! attributes as specified.
2  !
2
2       IF .FIB[FIB$W_FID_NUM] NEQ 65535
2       OR .FIB[FIB$W_FID_SEQ] NEQ 65535
2       OR .FIB[FIB$B_FID_NMX] NEQ 255
2       THEN
3           BEGIN
3           PRIMARY_VCB = .CURRENT_VCB;
3           IF .PRIMARY_VCB[VCB$W_RVN] NEQ 0
3           THEN
4               BEGIN
4               UCB = .VECTOR [CURRENT_RVT[RVT$L_UCBLST], 0];
4               IF .UCB EQL 0
4               THEN ERR_EXIT (SS$_DEVNOTMOUNT);
4               PRIMARY_VCB = .UCB[UCB$L_VCB];
3               END;
3
3           IF .PRIM_LCKINDX EQL 0
```

```
3          THEN
3              PRIM_LCKINDX = SERIAL_FILE (FIB [FIB$W_FID]);
3
3          HEADER = READ_HEADER (FIB[FIB$W_FID], 0);
3          IDENT_AREA = .HEADER + .HEADER[FH2$B_IDOFFSET]*2;
3
3          CH$MOVE (FID$C_LENGTH, HEADER[FH2$W_BACKLINK], PREV_LINK);
3          IF .PREV_LINK[FID$W_NUM] EQL 0
3          AND .PREV_LINK[FID$B_RVN] EQL 0
3          THEN
4              BEGIN
4              IF NOT .CLEANUP_FLAGS[CLF_SPOOLFILE]
4              THEN
5                  BEGIN
5                  CH$MOVE (FID$C_LENGTH, FIB[FIB$W_DID], HEADER[FH2$W_BACKLINK]);
5                  DEFAULT_RVN (HEADER[FH2$W_BK_FIDRVN],.CURRENT_RVN);
5                  CLEANUP_FLAGS[CLF_FIXLINK] = 1;
4                  END;
4
4              CH$MOVE (FI2$S_FILENAME, IDENT_AREA[FI2$T_FILENAME], PREV_INAME);
4              CH$MOVE (FI2$S_FILENAMEXT, IDENT_AREA[FI2$T_FILENAMEXT],
4                                      PREV_INAME[FI2$S_FILENAME]);
4              CH$COPY (.RESULT_LENGTH, RESULT, ' ', FI2$S_FILENAME, IDENT_AREA[FI2$T_FILENAME]);
4              IF .HEADER[FH2$B_MPOFFSET] - .HEADER[FH2$B_IDOFFSET]
4                 GEQU ($BYTEOFFSET (FI2$T_FILENAMEXT) + FI2$S_FILENAMEXT) / 2
4              THEN
5                  BEGIN
5                  K = MAX (.RESULT_LENGTH - FI2$S_FILENAME, 0);
5                  CH$COPY (.K, RESULT[FI2$S_FILENAME], ' ',
5                           FI2$S_FILENAMEXT, IDENT_AREA[FI2$T_FILENAMEXT]);
4                  END;
4
4    ! Update revision count and date and expiration date as appropriate.
4    !
4
4              SET_REVISION (.HEADER, 3);
3              END;
3
3    ! Set up file dates; then write the attributes.
3    !
3
3          IF .FUNCTION[IO$V_CREATE]
3          THEN
4              BEGIN
4              IDENT_AREA[FI2$W_REVISION] = 0;
4              CH$MOVE (FI2$S_CREDATE, IDENT_AREA[FI2$Q_REVDATE], IDENT_AREA[FI2$Q_CREDATE]);
4
4              IF .PACKET[IRP$W_BCNT] GTR ABD$C_ATTRIB
4              THEN
5                  BEGIN
5                  WRITE_ATTRIB (.HEADER, .ABD, 0);
5                  HEADER = .FILE_HEADER;
4                  END;
4
4    ! If the file is now owned by a UIC other than the creator, add an ACL
4    ! entry granting owner's access to the creator. Then write the modified
4    ! ACL into the header.
```

```
4
4         IF .HEADER[FH2$L_FILEOWNER] NEQ .ARB[ARB$L_UIC]
4         AND NOT .CLEANUP_FLAGS[CLF_SYSPRV]
4         THEN
5             BEGIN
5             ACL_INIT_QUEUE (PRIMARY_FCB[FCB$R_ORB]);
5             ACL_CONTEXT = 0;
5             ACE[ACE$B_SIZE] = ACE_LENGTH;
5             ACE[ACE$B_TYPE] = ACE$C_KEYID;
5             ACE[ACE$W_FLAGS] = ACE$M_NOPROPAGATE;
5             ACE[ACE$L_ACCESS] = ACE$M_CONTROL OR
5                                 (.(HEADER[FH2$W_FILEPROT])<4,4> XOR %B'1111');
5             ACE[ACE$L_KEY] = .ARB[ARB$L_UIC];
5             ACL_ADDENTRY (PRIMARY_FCB[FCB$L_ACLFL], ACL_CONTEXT, ACE_LENGTH, ACE);
5             STATUS = ACL_BUILDACL (.PRIMARY_FCB);
5             IF NOT .STATUS THEN ERR_EXIT (.STATUS);
4             END;
4
4         CHARGE_QUOTA (.HEADER[FH2$L_FILEOWNER], 1, BITLIST (QUOTA_CHECK, QUOTA_CHARGE));
4         CLEANUP_FLAGS[CLF_HDRNOTCHG] = 0;
4
4 ! If access is requested, access the file.
4 !
4
4         IF .FUNCTION[IO$V_ACCESS]
4         THEN
5             BEGIN
5
5             IF NOT ARBITRATE_ACCESS (.FIB [FIB$L_ACCTL], .FCB)
5             THEN
5                 BUG_CHECK (XQPERR, 'how can we fail to access a new file?');
5
5             CURRENT_WINDOW = CREATE_WINDOW (.FIB[FIB$L_ACCTL],
5                 .FIB[FIB$B_WSIZE], .HEADER, .PACKET[IRP$L_PID], .FCB);
5
5             IF .CURRENT_WINDOW EQL 0
5             THEN
6                 BEGIN
6
6 ! This will dequeue the access lock we may have taken above (if a cluster
6 ! device) because the refcnt will be zero.
6 !
6
6                 CONV_ACCLOCK (0, .FCB);
6                 ERR_EXIT (SS$_EXBYTLM);
5                 END;
5
5             MAKE_ACCESS (.FCB, .CURRENT_WINDOW, .ABD);
5
5             IF .FUNCTION[IO$V_DELETE]
5             THEN KERNEL_CALL (MARKDEL_FCB, .FCB);
5             IF .(PRIMARY_VCB[VCB$Q_RETAINMAX]+4) NEQ 0
5             THEN KERNEL_CALL (SET_EXPIRE);
4             END;
4
4 ! Now extend the file if requested.
4 !
```

```
;  776          1765  4
;  777          1766  4             IF .FIB[FIB$V_EXTEND] THEN EXTEND (.FIB, .HEADER);
;  778          1767  4             HEADER = .FILE_HEADER;
;  779          1768  4             KERNEL_CALL (UPDATE_FCB, .HEADER);
;  780          1769  3             END;
;  781          1770  3
;  782          1771  3         CHECKSUM (.HEADER);
;  783          1772  3         MARK_DIRTY (.HEADER);
;  784          1773  3
;  785          1774  4         IF (.FUNCTION[IO$V_CREATE] OR .FIB[FIB$V_PROPAGATE])
;  786          1775  3             AND .PRIMARY_FCB NEQ 0
;  787          1776  3         THEN
;  788          1777  3             IF .BBLOCK[PRIMARY_FCB[FCB$R_ORB], ORB$V_ACL_QUEUE]
;  789          1778  3             THEN
;  790          1779  4                 BEGIN
;  791          1780  4                 STATUS = ACL_BUILDACL (.PRIMARY_FCB);
;  792          1781  4                 IF NOT .STATUS THEN ERR_EXIT (.STATUS);
;  793          1782  3                 END;
;  794          1783  3
;  795          1784  3     ! Perform the remap operation if necessary to account for any initial extend.
;  796          1785  3     !
;  797          1786  3
;  798          1787  3         IF .FUNCTION[IO$V_ACCESS] AND .FIB[FIB$V_EXTEND]
;  799          1788  3         THEN IF .CURRENT_WINDOW[WCB$V_CATHEDRAL]
;  800          1789  3         THEN REMAP_FILE ();
;  801          1790  2         END;
;  802          1791  2
;  803          1792  2     ! If this is a supersede operation, delete the file that was removed during
;  804          1793  2     ! the enter operation above. This must be done last since we cannot undo
;  805          1794  2     ! a delete in cleaning up from a subsequent error. We first copy the primary
;  806          1795  2     ! context into the context save area since this is a secondary operation.
;  807          1796  2     !
;  808          1797  2
;  809          1798  2     IF .CLEANUP_FLAGS[CLF_SUPERSEDE]
;  810          1799  2     THEN
;  811          1800  3         BEGIN
;  812          1801  3         ALLOCATION_UNLOCK ();
;  813          1802  3         SAVE_CONTEXT ();
;  814          1803  3         CH$COPY (FID$C_LENGTH, SUPER_FID, 0,
;  815          1804  3                  FIB$C_LENGTH - $BYTEOFFSET (FIB$W_FID), SECOND_FIB[FIB$W_FID]);
;  816          1805  3         SECOND_FIB[FIB$B_AGENT_MODE] = .FIB[FIB$B_AGENT_MODE];
;  817          1806  3         MARK_DELETE (SECOND_FIB, 1, 0, 0);
;  818          1807  3         RESTORE_CONTEXT ();
;  819          1808  2         END;
;  820          1809  2
;  821          1810  2
;  822          1811  2     RETURN 1;
;  823          1812  2
;  824          1813  1     END;                                        ! end of routine CREATE


                                                            .TITLE  CREATE
                                                            .IDENT  \V04-001\

                                                            .EXTRN  ACP$GB_WRITBACK
                                                            .EXTRN  SCH$GL_PCBVEC, EXE$GL_DYNAMIC_FLAGS
                                                            .EXTRN  EXE$V_CLASS_PROT
```

```
                                                         .EXTRN  ACL_DELETEACL, UPDATE_FCB
                                                         .EXTRN  REBLD_PRIM_FCB, BUILD_EXT_FCBS
                                                         .EXTRN  RELEASE_SERIAL_LOCK
                                                         .EXTRN  ALLOCATION_UNLOCK
                                                         .EXTRN  ARBITRATE_ACCESS
                                                         .EXTRN  CONV_ACCLOCK, SERIAL_FILE
                                                         .EXTRN  GET_FIB, GET_LOC_ATTR
                                                         .EXTRN  GET_LOC, SWITCH_VOLUME
                                                         .EXTRN  SELECT_VOLUME, CHECK_PROTECT
                                                         .EXTRN  CHARGE_QUOTA, CREATE_HEADER
                                                         .EXTRN  CHECKSUM, MARK_DIRTY
                                                         .EXTRN  ACL_INIT_QUEUE, ACL_ADDENTRY
                                                         .EXTRN  ACL_BUILDACL, READ_HEADER
                                                         .EXTRN  ENTER, COPY_NAME
                                                         .EXTRN  SET_REVISION, CREATE_FCB
                                                         .EXTRN  CREATE_WINDOW, SET_EXPIRE
                                                         .EXTRN  MAKE_ACCESS, MARKDEL_FCB
                                                         .EXTRN  WRITE_ATTRIB, EXTEND
                                                         .EXTRN  SAVE_CONTEXT, RESTORE_CONTEXT
                                                         .EXTRN  MARK_DELETE, REMAP_FILE
                                                         .EXTRN  SEARCH_FCB, BUG$_XQPERR

                                                         .PSECT  $CODE$,NOWRT,2

                                   0BFC 00000            .ENTRY  CREATE, Save R2,R3,R4,R5,R6,R7,R8,R9,R11     ; 1252
             5E          80    AE    9E 00002            MOVAB   -128(SP), SP                                 ;
                         04    AA    9F 00006            PUSHAB  4(BASE)                                      ; 1328
                         08    AA    9F 00009            PUSHAB  8(BASE)                                      ;
             59          18    AA    9E 0000C            MOVAB   24(BASE), R9                                 ;
                         30    AA    9F 00010            PUSHAB  48(BASE)                                     ;
                       01A8    CA    9F 00013            PUSHAB  424(BASE)                                    ;
                       0244    CA    9F 00017            PUSHAB  580(BASE)                                    ;
                         90    AA    DD 0001B            PUSHL   -112(BASE)                                   ; 1376
 50          6E                20    C1 0001E            ADDL3   #32, PACKET, R0                              ; 1377
             7E                60    3C 00022            MOVZWL  (R0), FUNCTION                               ;
 06          6E                06    E1 00025            BBC     #6, FUNCTION, 1$                             ; 1378
       02    AA        0402    8F    A8 00029            BISW2   #1026, 2(BASE)                               ; 1382
             51   00000000G    9F    D0 0002F  1$:       MOVL    @#SCH$GL_PCBVEC, R1                          ; 1388
             50          90    AA    D0 00036            MOVL    -112(BASE), R0                               ;
             50                0C    C0 0003A            ADDL2   #12, R0                                      ;
             50                60    3C 0003D            MOVZWL  (R0), R0                                     ;
             5B              6140    D0 00040            MOVL    (R1)[R0], PCB                                ;
 50    04    AE                2C    C1 00044            ADDL3   #44, PACKET, R0                              ; 1389
             56                90    D0 00049            MOVL    @(R0)+, ABD                                  ;
                               56    DD 0004C            PUSHL   ABD                                          ; 1391
    0000G    CF                01    FB 0004E            CALLS   #1, GET_FIB                                  ;
             57                50    D0 00053            MOVL    R0, FIB                                      ;
             27          17    A7    E8 00056            BLBS    23(FIB), 3$                                  ; 1393
     7FFF    8F          2C    A7    B1 0005A            CMPW    44(FIB), #32767                              ; 1394
                               1F    1A 00060            BGTRU   3$                                           ;
             04          01    AE    E9 00062            BLBC    FUNCTION+1, 2$                               ; 1395
 17          6E                06    E1 00066            BBC     #6, FUNCTION, 3$                             ;
                               6E    95 0006A  2$:       TSTB    FUNCTION                                     ; 1396
                               16    19 0006C            BLSS    4$                                           ;
                         16    A7    95 0006E            TSTB    22(FIB)                                      ; 1397
                               0E    19 00071            BLSS    3$                                           ;
 50    04    AE                32    C1 00073            ADDL3   #50, PACKET, R0                              ; 1398
```

```
CREATE                                                              C 1
V04-001                                                  16-Sep-1984 00:06:06   VAX-11 Bliss-32 V4.0-742                Page  17
                                                         14-Sep-1984 12:30:13   DISK$VMSMASTER:[F11X.SRC]CREATE.B32;2    (2)

                                   05           60  B1 00078        CMPW    (R0), #5                              :
                                                04  1A 0007B        BGTRU   3$                                    :
                 03                6E           06  E1 0007D        BBC     #6, FUNCTION, 4$                      : 1399
                                                14  BF 00081  3$:   CHMU    #20                                   : 1402
                                                    04 00083        RET                                           :
                                   50      98   AA  D0 00084  4$:   MOVL    -104(BASE), R0                        : 1404
                 03        0B      A0           04  E1 00088        BBC     #4, 11(R0), 5$                        :
                                              00C2  31 0008D        BRW     16$                                   :
                                                6E  95 00090  5$:   TSTB    FUNCTION                              : 1411
                                                03  19 00092        BLSS    6$                                    :
                                              015E  31 00094        BRW     23$                                   :
                 50        04      AE           20  C1 00097  6$:   ADDL3   #32, PACKET, R0                       : 1420
        32       60                06           00  ED 0009C        CMPZV   #0, #6, (R0), #50                     :
                                                4F  12 000A1        BNEQ    10$                                   :
                                                69  D5 000A3        TSTL    (R9)                                  : 1423
                                                09  13 000A5        BEQL    7$                                    :
                                                69  DD 000A7        PUSHL   (R9)                                  : 1426
                          0000G    CF           01  FB 000A9        CALLS   #1, RELEASE_SERIAL_LOCK               :
                                                69  D4 000AE        CLRL    (R9)                                  : 1427
                           15      A7           04  88 000B0  7$:   BISB2   #4, 21(FIB)                           : 1429
                                   50    00D0   CA  D0 000B4        MOVL    208(BASE), R0                         : 1436
                                                37  13 000B9        BEQL    10$                                   :
                 33                6A           06  E1 000BB        BBC     #6, (BASE), 10$                       : 1437
                                                6A  95 000BF        TSTB    (BASE)                                : 1438
                                                2F  19 000C1        BLSS    10$                                   :
        7E    38    A7             01           00  EF 000C3        EXTZV   #0, #1, 56(FIB), -(SP)                : 1444
                 04        3C      A7           03  E1 000C9        BBC     #3, 60(FIB), 8$                       : 1442
                                                02  DD 000CE        PUSHL   #2                                    :
                                                02  11 000D0        BRB     9$                                    :
                                                7E  D4 000D2  8$:   CLRL    -(SP)                                 :
                                                7E  D4 000D4  9$:   CLRL    -(SP)                                 : 1441
                                                50  DD 000D6        PUSHL   R0                                    :
                                   7E           01  7D 000D8        MOVQ    #1, -(SP)                             :
                          0000G    CF           06  FB 000DB        CALLS   #6, CHECK_PROTECT                     :
                             24    AE           50  D0 000E0        MOVL    R0, STATUS                            :
                      00000681     8F      24   AE  D1 000E4        CMPL    STATUS, #1665                         : 1445
                                                04  12 000EC        BNEQ    10$                                   :
                             38    A7           02  8A 000EE        BICB2   #2, 56(FIB)                           : 1446
                             38    A7           08  8A 000F2  10$:  BICB2   #8, 56(FIB)                           : 1454
                 08          16    A7           04  E1 000F6        BBC     #4, 22(FIB), 11$                      : 1455
                                   7E           56  7D 000FB        MOVQ    ABD, -(SP)                            : 1456
                          0000G    CF           02  FB 000FE        CALLS   #2, GET_LOC_ATTR                      :
                                           20   AA  9F 00103  11$:  PUSHAB  32(BASE)                              : 1457
                                           1C   AA  9F 00106        PUSHAB  28(BASE)                              :
                                                57  DD 00109        PUSHL   FIB                                   :
                          0000G    CF           03  FB 0010B        CALLS   #3, GET_LOC                           :
                                           1C   AA  D5 00110        TSTL    28(BASE)                              : 1458
                                                0E  13 00113        BEQL    12$                                   :
                                   0A      20   A7  E9 00115        BLBC    32(FIB), 12$                          : 1459
                                           1C   AA  DD 00119        PUSHL   28(BASE)                              : 1461
                          0000G    CF           01  FB 0011C        CALLS   #1, SWITCH_VOLUME                     :
                                                13  11 00121        BRB     15$                                   :
                                           16   A7  95 00123  12$:  TSTB    22(FIB)                               : 1463
                                                05  18 00126        BGEQ    13$                                   :
                                           18   A7  DD 00128        PUSHL   24(FIB)                               : 1464
                                                02  11 0012B        BRB     14$                                   :
                                                7E  D4 0012D  13$:  CLRL    -(SP)                                 : 1463
                                              57  DD 0012F 14$:   PUSHL   FIB                                       :
                           0000G  CF          02  FB 00131        CALLS   #2, SELECT_VOLUME                         :
                                              7E  7C 00136 15$:   CLRQ    -(SP)                                     : 1467
                                  7E          03  7D 00138        MOVQ    #3, -(SP)                                 :
                           0000G  CF          04  FB 0013B        CALLS   #4, CHECK_PROTECT                         :
                                  50      94  AA  D0 00140        MOVL    -108(BASE), R0                            : 1468
                    09       3B   A0          01  E0 00144        BBS     #1, 59(R0), 16$                           :
                                  50      98  AA  D0 00149        MOVL    -104(BASE), R0                            : 1469
                    05       0B   A0          04  E1 0014D        BBC     #4, 11(R0), 17$                           :
                                        025C  8F  BF 00152 16$:   CHMU    #604                                      : 1470
                                                  04 00156        RET                                               :
                                          04  A7  9F 00157 17$:   PUSHAB  4(FIB)                                    : 1472
                           0000G  CF          01  FB 0015A        CALLS   #1, CREATE_HEADER                         :
                                  58          50  D0 0015F        MOVL    R0, HEADER                                :
                    50       04   AE 00000058 8F  C1 00162        ADDL3   #88, PACKET, R0                           : 1477
                             1C   AE          60  D0 0016B        MOVL    (R0), ARB                                 :
                    05 00000000G  9F 00000000G 8F E1 0016F        BBC     #EXE$V_CLASS_PROT, @#EXE$GL_DYNAMIC_FLAGS, -: 1479
                                                                          18$                                       :
                                  68          36  90 0017B        MOVB    #54, (HEADER)                             : 1480
                                              03  11 0017E        BRB     19$                                       :
                                  68          28  90 00180 18$:   MOVB    #40, (HEADER)                             : 1481
                 01  A8           68          3C  81 00183 19$:   ADDB3   #60, (HEADER), 1(HEADER)                  : 1482
                             02   A8    FFFF  8F  3C 00188        MOVZWL  #65535, 2(HEADER)                         : 1483
                             06   A8    0201  8F  B0 0018E        MOVW    #513, 6(HEADER)                           : 1486
01F2    8F          00            6E          00  2C 00194        MOVC5   #0, (SP), #0, #498, 14(HEADER)            : 1488
                                          0E  A8     0019B                                                          :
                    50       1C   AE          38  C1 0019D        ADDL3   #56, ARB, R0                              : 1489
                             3C   A8          60  D0 001A2        MOVL    (R0), 60(HEADER)                          :
                             40   A8    0114  CB  B0 001A6        MOVW    276(PCB), 64(HEADER)                      : 1490
                                  05      01  AE  E9 001AC        BLBC    FUNCTION+1, 20$                           : 1492
                             35   A8      80  8F  88 001B0        BISB2   #128, 53(HEADER)                          : 1493
                                              6A  95 001B5 20$:   TSTB    (BASE)                                    : 1495
                                              04  18 001B7        BGEQ    21$                                       :
                             35   A8          10  88 001B9        BISB2   #16, 53(HEADER)                           : 1496
                    0A 00000000G  9F 00000000G 8F E1 001BD 21$:   BBC     #EXE$V_CLASS_PROT, @#EXE$GL_DYNAMIC_FLAGS, -: 1500
                                                                          22$                                       :
                    5B       1C   AE          0C  C1 001C9        ADDL3   #12, ARB, R11                             : 1501
                 58  A8           6B          14  28 001CE        MOVC3   #20, (R11), 88(HEADER)                    :
                                          A8  AA  D4 001D3 22$:   CLRL    -88(BASE)                                 : 1503
                             02   AA    0820  8F  A8 001D6        BISW2   #2080, 2(BASE)                            : 1505
                             18   BE          58  DC 001DC        MOVL    HEADER, @24(SP)                           : 1506
                                              58  DD 001E0        PUSHL   HEADER                                    : 1507
                           0000G  CF          01  FB 001E2        CALLS   #1, CHECKSUM                              :
                                              58  DD 001E7        PUSHL   HEADER                                    : 1513
                           0000G  CF          01  FB 001E9        CALLS   #1, CREATE_FCB                            :
                                  5B          50  D0 001EE        MOVL    R0, FCB                                   :
                             14   BE          5B  D0 001F1        MOVL    FCB, @20(SP)                              : 1514
                    03            6A          06  E0 001F5 23$:   BBS     #6, (BASE), 25$                           : 1522
                                            00E7  31 001F9 24$:   BRW     33$                                       :
                                              6A  95 001FC 25$:   TSTB    (BASE)                                    :
                                              F9  19 001FE        BLSS    24$                                       :
        06          00            6E          00  2C 00200        MOVC5   #0, (SP), #0, #6, 332(BASE)               : 1525
                                        014C  CA     00205                                                          :
                                          44  AE  9F 00208        PUSHAB  RESULT                                    : 1526
                                          2C  AE  9F 0020B        PUSHAB  RESULT_LENGTH                             :
                                  7E          56  7D 0020E        MOVQ    ABD, -(SP)                                :
                           0000G  CF          04  FB 00211        CALLS   #4, ENTER                                 :
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              0000G   CF             00  FB 00216        CALLS   #0, ALLOCATION_UNLOCK                        ; 1533
                                     6E  95 0021B        TSTB    FUNCTION                                     ; 1541
                                     0D  18 0021D        BGEQ    26$                                          ;
                                     5B  DD 0021F        PUSHL   FCB                                          ; 1543
                                     7E  D4 00221        CLRL    -(SP)                                        ;
              0000G   CF             02  FB 00223        CALLS   #2, READ_HEADER                              ;
                 18   BE             50  D0 00228        MOVL    R0, @24(SP)                                  ;
                                     6E  95 0022C  26$:  TSTB    FUNCTION                                     ; 1545
                                     08  19 0022E        BLSS    27$                                          ;
      03         3B   A7             03  E0 00230        BBS     #3, 56(FIB), 27$                             ;
                                   00D4  31 00235        BRW     35$                                          ;
                                     6E  95 00238  27$:  TSTB    FUNCTION                                     ; 1554
                                     6F  19 0023A        BLSS    31$                                          ;
                      7E       08    A7  3C 0023C        MOVZWL  8(FIB), -(SP)                                ; 1561
              0000G   CF             01  FB 00240        CALLS   #1, SWITCH_VOLUME                            ;
                               04    A7  9F 00245        PUSHAB  4(FIB)                                       ; 1566
              0000G   CF             01  FB 00248        CALLS   #1, SERIAL_FILE                              ;
                      69             50  D0 0024D        MOVL    R0, (R9)                                     ;
                               04    A7  9F 00250        PUSHAB  4(FIB)                                       ; 1572
          00000000G   00             01  FB 00253        CALLS   #1, SEARCH_FCB                               ;
                      5B             50  D0 0025A        MOVL    R0, FCB                                      ;
                                     5B  DD 0025D        PUSHL   FCB                                          ; 1573
                               04    A7  9F 0025F        PUSHAB  4(FIB)                                       ;
              0000G   CF             02  FB 00262        CALLS   #2, READ_HEADER                              ;
                      58             50  D0 00267        MOVL    R0, HEADER                                   ;
                                     52  D4 0026A        CLRL    FCB_CREATED                                  ; 1574
                                     5B  D5 0026C        TSTL    FCB                                          ; 1576
                                     0D  12 0026E        BNEQ    28$                                          ;
                      52             01  D0 00270        MOVL    #1, FCB_CREATED                              ; 1579
                                     58  DD 00273        PUSHL   HEADER                                       ; 1580
              0000G   CF             01  FB 00275        CALLS   #1, CREATE_FCB                               ;
                      5B             50  D0 0027A        MOVL    R0, FCB                                      ;
                 14   BE             5B  D0 0027D  28$:  MOVL    FCB, @20(SP)                                 ; 1582
                      0E             52  E8 00281        BLBS    FCB_CREATED, 29$                             ; 1588
                      11       23    AB  E9 00284        BLBC    35(FCB), 30$                                 ; 1592
                                     58  DD 00288        PUSHL   HEADER                                       ; 1595
                               18    BE  DD 0028A        PUSHL   @24(SP)                                      ;
              0000G   CF             02  FB 0028D        CALLS   #2, REBLD_PRIM_FCB                           ;
                                     58  DD 00292  29$:  PUSHL   HEADER                                       ; 1596
              0000G   CF             01  FB 00294        CALLS   #1, BUILD_EXT_FCBS                           ;
      0D         63   AB             01  E1 00299  30$:  BBC     #1, 99(FCB), 31$                             ; 1603
                                     7E  D4 0029E        CLRL    -(SP)                                        ; 1605
                             0080    CB  9F 002A0        PUSHAB  128(FCB)                                     ;
          00000000G   00             02  FB 002A4        CALLS   #2, ACL_DELETEACL                            ;
                                     57  DD 002AB  31$:  PUSHL   FIB                                          ; 1611
              0000V   CF             01  FB 002AD        CALLS   #1, PROPAGATE_ATTR                           ;
                 24   AE             50  D0 002B2        MOVL    R0, STATUS                                   ;
                      03       24    AE  E8 002B6        BLBS    STATUS, 32$                                  ; 1612
                                   027E  31 002BA        BRW     55$                                          ;
                      58       18    BE  D0 002BD  32$:  MOVL    @24(SP), HEADER                              ; 1613
                      50       14    BE  D0 002C1        MOVL    @20(SP), R0                                  ; 1614
                 3C   A8       58    A0  D0 002C5        MOVL    88(R0), 60(HEADER)                           ;
                      50       14    BE  D0 002CA        MOVL    @20(SP), R0                                  ; 1615
                 40   A8       70    A0  B0 002CE        MOVW    112(R0), 64(HEADER)                          ;
                                     58  DD 002D3        PUSHL   HEADER                                       ; 1616
              0000G   CF             01  FB 002D5        CALLS   #1, CHECKSUM                                 ;
                                     58  DD 002DA        PUSHL   HEADER                                       ; 1617
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                                                    F  1
CREATE                                     16-Sep-1984 00:06:06    VAX-11 Bliss-32 V4.0-742                 Page  20
V04-001                                    14-Sep-1984 12:30:13    DISK$VMSMASTER:[F11X.SRC]CREATE.B32;2      (2)

                    0000G    CF        01 FB 002DC       CALLS    #1, MARK_DIRTY                              ;
                                       29 11 002E1       BRB      35$                                         ; 1522
                                       56 DD 002E3 33$:  PUSHL    ABD                                         ; 1622
                    0000G    CF        01 FB 002E5       CALLS    #1, COPY_NAME                               ;
                             50    12  A6 3C 002EA       MOVZWL   18(ABD), R0                                 ; 1623
                     0056    8F        50 B1 002EE       CMPW     R0, #86                                     ;
                                       04 1B 002F3       BLEQU    34$                                         ;
                             50    56  8F 9A 002F5       MOVZBL   #86, R0                                     ;
                       28    AE        50 D0 002F9 34$:  MOVL     R0, RESULT_LENGTH                           ;
                             51    10  A6 9E 002FD       MOVAB    16(ABD), R1                                 ; 1625
                             50        61 3C 00301       MOVZWL   (R1), R0                                    ;
            44  AE     01  A140    28  AE 28 00304       MOVC3    RESULT_LENGTH, 1(R1)[R0], RESULT            ; 1624
                     FFFF    8F    04  A7 B1 0030C 35$:  CMPW     4(FIB), #65535                              ; 1635
                                       12 12 00312       BNEQ     36$                                         ;
                     FFFF    8F    06  A7 B1 00314       CMPW     6(FIB), #65535                              ; 1636
                                       0A 12 0031A       BNEQ     36$                                         ;
                       FF    8F    09  A7 91 0031C       CMPB     9(FIB), #255                                ; 1637
                                       03 12 00321       BNEQ     36$                                         ;
                                     0230 31 00323       BRW      57$                                         ;
                       20    AE    98  AA D0 00326 36$:  MOVL     -104(BASE), PRIMARY_VCB                     ; 1640
                50     20    AE        0E C1 0032B       ADDL3    #14, PRIMARY_VCB, R0                        ; 1641
                                       60 B5 00330       TSTW     (R0)                                        ;
                                       14 13 00332       BEQL     38$                                         ;
                             50    9C  AA D0 00334       MOVL     -100(BASE), R0                              ; 1644
                             51    44  A0 D0 00338       MOVL     68(R0), UCB                                 ;
                                       05 12 0033C       BNEQ     37$                                         ; 1645
                                 007C  8F BF 0033E       CHMU     #124                                        ; 1646
                                          04 00342       RET                                                  ;
                       20    AE    34  A1 D0 00343 37$:  MOVL     52(UCB), PRIMARY_VCB                        ; 1647
                                       69 D5 00348 38$:  TSTL     (R9)                                        ; 1650
                                       0B 12 0034A       BNEQ     39$                                         ;
                                   04  A7 9F 0034C       PUSHAB   4(FIB)                                      ; 1652
                    0000G    CF        01 FB 0034F       CALLS    #1, SERIAL_FILE                             ;
                             69        50 D0 00354       MOVL     R0, (R9)                                    ;
                                       7E D4 00357 39$:  CLRL     -(SP)                                       ; 1654
                                   04  A7 9F 00359       PUSHAB   4(FIB)                                      ;
                    0000G    CF        02 FB 0035C       CALLS    #2, READ_HEADER                             ;
                             58        50 D0 00361       MOVL     R0, HEADER                                  ;
                             50        68 9A 00364       MOVZBL   (HEADER), R0                                ; 1655
                             59      6840 3E 00367       MOVAW    (HEADER)[R0], IDENT_AREA                    ;
            10  BE     42    A8        06 28 0036B       MOVC3    #6, 66(HEADER), @16(SP)                     ; 1657
                                   10  BE B5 00371       TSTW     @16(SP)                                     ; 1658
                                       68 12 00374       BNEQ     44$                                         ;
                50     10    AE        04 C1 00376       ADDL3    #4, 16(SP), R0                              ; 1659
                                       60 B5 0037B       TSTW     (R0)                                        ;
                                       5F 12 0037D       BNEQ     44$                                         ;
                                       6A 95 0037F       TSTB     (BASE)                                      ; 1662
                                       17 19 00381       BLSS     41$                                         ;
            42  A8     0A    A7        06 28 00383       MOVC3    #6, 10(FIB), 66(HEADER)                     ; 1665
  A0  AA    46  A8           08        00 ED 00389       CMPZV    #0, #8, 70(HEADER), -96(BASE)               ; 1666
                                       03 12 00390       BNEQ     40$                                         ;
                                   46  A8 94 00392       CLRB     70(HEADER)                                  ;
                       03    AA    40  8F 88 00395 40$:  BISB2    #64, 3(BASE)                                ; 1667
            0C  BE           69        14 28 0039A 41$:  MOVC3    #20, (IDENT_AREA), @12(SP)                  ; 1670
                7E     0C    AE        14 C1 0039F       ADDL3    #20, 12(SP), -(SP)                          ; 1672
                9E     36    A9  0042  8F 28 003A4       MOVC3    #66, 54(IDENT_AREA), @(SP)+                 ;
      14        20     44    AE    28  AE 2C 003AB       MOVC5    RESULT_LENGTH, RESULT, #32, #20, -          ; 1673
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                                                              G  1
CREATE                                                 16-Sep-1984 00:06:06    VAX-11 Bliss-32 V4.0-742                     Page  21
V04-001                                                14-Sep-1984 12:30:13    DISK$VMSMASTER:[F11X.SRC]CREATE.B32;2         (2)

                                                         69     003B2                  (IDENT_AREA)                              ;
                                      50       01        A8  9A 003B3          MOVZBL  1(HEADER), R0                             ; 1674
                                      51                 68  9A 003B7          MOVZBL  (HEADER), R1                              ;
                                      50                 51  C2 003BA          SUBL2   R1, R0                                    ;
                                      3C                 50  D1 003BD          CMPL    R0, #60                                   ; 1675
                                                         13  1F 003C0          BLSSU   43$                                       ;
                          50        28 AE                14  C3 003C2          SUBL3   #20, RESULT_LENGTH, R0                    ; 1678
                                                         02  18 003C7          BGEQ    42$                                       ;
                                                         50  D4 003C9          CLRL    R0                                        ;
    0042   8F             20        58 AE                50  2C 003CB 42$:     MOVC5   K, RESULT+20, #32, #66, 54(IDENT_AREA)    ; 1680
                                               36        A9     003D3                                                            ;
                                                         03  DD 003D5 43$:     PUSHL   #3                                        ; 1686
                                                         58  DD 003D7          PUSHL   HEADER                                    ;
                                 0000G CF                02  FB 003D9          CALLS   #2, SET_REVISION                          ;
                                                         6E  95 003DE 44$:     TSTB    FUNCTION                                  ; 1692
                                                         03  19 003E0          BLSS    45$                                       ;
                                                       011F  31 003E2          BRW     53$                                       ;
                                               14        A9  B4 003E5 45$:     CLRW    20(IDENT_AREA)                            ; 1695
                     16   A9        1E A9                08  28 003E8          MOVC3   #8, 30(IDENT_AREA), 22(IDENT_AREA)        ; 1696
                          50        04 AE                32  C1 003EE          ADDL3   #50, PACKET, R0                           ; 1698
                                       05                60  B1 003F3          CMPW    (R0), #5                                  ;
                                                         0F  1B 003F6          BLEQU   46$                                       ;
                                                         7E  D4 003F8          CLRL    -(SP)                                     ; 1701
                                                         56  DD 003FA          PUSHL   ABD                                       ;
                                                         58  DD 003FC          PUSHL   HEADER                                    ;
                                 0000G CF                03  FB 003FE          CALLS   #3, WRITE_ATTRIB                          ;
                                       58      18        BE  D0 00403          MOVL    @24(SP), HEADER                           ; 1702
                          50        1C AE                38  C1 00407 46$:     ADDL3   #56, ARB, R0                              ; 1709
                                       60      3C        A8  D1 0040C          CMPL    60(HEADER), (R0)                          ;
                                                         63  13 00410          BEQL    47$                                       ;
                                       5F      01        AA  E8 00412          BLBS    1(BASE), 47$                              ; 1710
                          7E        14 BE 00000058       8F  C1 00416          ADDL3   #88, @20(SP), -(SP)                       ; 1713
                             00000000G 00                01  FB 0041F          CALLS   #1, ACL_INIT_QUEUE                        ;
                                               2C        AE  D4 00426          CLRL    ACL_CONTEXT                               ; 1714
                                    30 AE 0800010C       8F  D0 00429          MOVL    #134217996, ACE                           ; 1715
           50        40   A8           04                04  EF 00431          EXTZV   #4, #4, 64(HEADER), R0                    ; 1719
                                       50                0F  CC 00437          XORL2   #15, R0                                   ;
                     34   AE           50                10  C9 0043A          BISL3   #16, R0, ACE+4                            ; 1718
                          50        1C AE                38  C1 0043F          ADDL3   #56, ARB, R0                              ; 1720
                                    38 AE                60  D0 00444          MOVL    (R0), ACE+8                               ;
                                               30        AE  9F 00448          PUSHAB  ACE                                       ; 1721
                                                         0C  DD 0044B          PUSHL   #12                                       ;
                                               34        AE  9F 0044D          PUSHAB  ACL_CONTEXT                               ;
                          7E        20 BE 00000080       8F  C1 00450          ADDL3   #128, @32(SP), -(SP)                      ;
                             00000000G 00                04  FB 00459          CALLS   #4, ACL_ADDENTRY                          ;
                                               14        BE  DD 00460          PUSHL   @20(SP)                                   ; 1722
                             00000000G 00                01  FB 00463          CALLS   #1, ACL_BUILDACL                          ;
                                    24 AE                50  D0 0046A          MOVL    R0, STATUS                                ;
                                       03      24        AE  E8 0046E          BLBS    STATUS, 47$                               ; 1723
                                                       00C6  31 00472          BRW     55$                                       ;
                                                         03  DD 00475 47$:     PUSHL   #3                                        ; 1726
                                                         01  DD 00477          PUSHL   #1                                        ;
                                               3C        A8  DD 00479          PUSHL   60(HEADER)                                ;
                                 0000G CF                03  FB 0047C          CALLS   #3, CHARGE_QUOTA                          ;
                                    03 AA                08  8A 00481          BICB2   #8, 3(BASE)                               ; 1727
                          63           6E                06  E1 00485          BBC     #6, FUNCTION, 51$                         ; 1732
                                       51                5B  D0 00489          MOVL    FCB, R1                                   ; 1736
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                  50          67  D0 0048C        MOVL    (FIB), R0                              ;
                           0000G  30 0048F        BSBW    ARBITRATE_ACCESS                       ;
                  04          50  E8 00492        BLBS    R0, 48$                                ;
                                FEFF 00495        BUGW                                           ; 1738
                               0000* 00497        .WORD   <BUG$_XQPERR!4>                        ;
                              5B  DD 00499 48$:   PUSHL   FCB                                    ; 1741
52        08      AE          0C  C1 0049B        ADDL3   #12, PACKET, R2                        ;
                              62  DD 004A0        PUSHL   (R2)                                   ;
                              58  DD 004A2        PUSHL   HEADER                                 ;
                  7E    03    A7  98 004A4        CVTBL   3(FIB), -(SP)                          ;
                              67  DD 004A8        PUSHL   (FIB)                                  ; 1740
       0000G      CF          05  FB 004AA        CALLS   #5, CREATE_WINDOW                      ;
          0C      AA          50  D0 004AF        MOVL    R0, 12(BASE)                           ;
                              0E  12 004B3        BNEQ    49$                                    ; 1743
                              5B  DD 004B5        PUSHL   FCB                                    ; 1751
                              7E  D4 004B7        CLRL    -(SP)                                  ;
       0000G      CF          02  FB 004B9        CALLS   #2, CONV_ACCLOCK                       ;
                      2A14    8F  BF 004BE        CHMU    #10772                                 ; 1752
                                  04 004C2        RET                                            ;
                              56  DD 004C3 49$:   PUSHL   ABD                                    ; 1755
                        0C    AA  DD 004C5        PUSHL   12(BASE)                               ;
                              5B  DD 004C8        PUSHL   FCB                                    ;
       0000G      CF          03  FB 004CA        CALLS   #3, MAKE_ACCESS                        ;
                  07    01    AE  E9 004CF        BLBC    FUNCTION+1, 50$                        ; 1757
                              5B  DD 004D3        PUSHL   FCB                                    ; 1758
       0000G      CF          01  FB 004D5        CALLS   #1, MARKDEL_FCB                        ;
50        20      AE 00000078 8F  C1 004DA 50$:   ADDL3   #120, PRIMARY_VCB, R0                  ; 1759
                              60  D5 004E3        TSTL    (R0)                                   ;
                              05  13 004E5        BEQL    51$                                    ;
       0000G      CF          00  FB 004E7        CALLS   #0, SET_EXPIRE                         ; 1760
                        16    A7  95 004EC 51$:   TSTB    22(FIB)                                ; 1766
                              08  18 004EF        BGEQ    52$                                    ;
                  7E          57  7D 004F1        MOVQ    FIB, -(SP)                             ;
       0000G      CF          02  FB 004F4        CALLS   #2, EXTEND                             ;
                  58    18    BE  D0 004F9 52$:   MOVL    @24(SP), HEADER                        ; 1767
                              58  DD 004FD        PUSHL   HEADER                                 ; 1768
       0000G      CF          01  FB 004FF        CALLS   #1, UPDATE_FCB                         ;
                              58  DD 00504 53$:   PUSHL   HEADER                                 ; 1771
       0000G      CF          01  FB 00506        CALLS   #1, CHECKSUM                           ;
                              58  DD 0050B        PUSHL   HEADER                                 ; 1772
       0000G      CF          01  FB 0050D        CALLS   #1, MARK_DIRTY                         ;
                              6E  95 00512        TSTB    FUNCTION                               ; 1774
                              05  19 00514        BLSS    54$                                    ;
24        38      A7          03  E1 00516        BBC     #3, 56(FIB), 56$                       ;
                        14    BE  D5 0051B 54$:   TSTL    @20(SP)                                ; 1775
                              1F  13 0051E        BEQL    56$                                    ;
                  50    14    BE  D0 00520        MOVL    @20(SP), R0                            ; 1777
16        63      A0          01  E1 00524        BBC     #1, 99(R0), 56$                        ;
                        14    BE  DD 00529        PUSHL   @20(SP)                                ; 1780
   00000000G      00          01  FB 0052C        CALLS   #1, ACL_BUILDACL                       ;
          24      AE          50  D0 00533        MOVL    R0, STATUS                             ;
                  04    24    AE  E8 00537        BLBS    STATUS, 56$                            ; 1781
                        24    AE  BF 0053B 55$:   CHMU    STATUS                                 ;
                                  04 0053E        RET                                            ;
13                6E          06  E1 0053F 56$:   BBC     #6, FUNCTION, 57$                      ; 1787
                        16    A7  95 00543        TSTB    22(FIB)                                ;
                              0E  18 00546        BGEQ    57$                                    ;
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                                                                        I 1
CREATE                                                          16-Sep-1984 00:06:06    VAX-11 Bliss-32 V4.0-742                 Page  23
V04-001                                                         14-Sep-1984 12:30:13    DISK$VMSMASTER:[F11X.SRC]CREATE.B32;2     (2)

                              50      0C  AA  D0 00548        MOVL    12(BASE), R0                                            ; 1788
              05        0B    A0          06  E1 0054C        BBC     #6, 11(R0), 57$                                         ;
                     0000G    CF          00  FB 00551        CALLS   #0, REMAP_FILE                                          ; 1789
              31              6A          05  E1 00556 57$:   BBC     #5, (BASE), 58$                                         ; 1798
                     0000G    CF          00  FB 0055A        CALLS   #0, ALLOCATION_UNLOCK                                   ; 1801
                     0000G    CF          00  FB 0055F        CALLS   #0, SAVE_CONTEXT                                        ; 1802
              56        08    AE          04  C1 00564        ADDL3   #4, 8(SP), R6                                           ; 1804
      3C      00      01FE    CA          06  2C 00569        MOVC5   #6, 510(BASE), #0, #60, (R6)                            ;
                                          66     00570                                                                        ;
              50        08    AE          2E  C1 00571        ADDL3   #46, 8(SP), R0                                          ; 1805
                              60      2E  A7  90 00576        MOVB    46(FIB), (R0)                                           ;
                                          7E  7C 0057A        CLRQ    -(SP)                                                   ; 1806
                                          01  DD 0057C        PUSHL   #1                                                      ;
                                      14  AE  DD 0057E        PUSHL   20(SP)                                                  ;
                     0000G    CF          04  FB 00581        CALLS   #4, MARK_DELETE                                         ;
                     0000G    CF          00  FB 00586        CALLS   #0, RESTORE_CONTEXT                                     ; 1807
                              50          01  D0 0058B 58$:   MOVL    #1, R0                                                  ; 1811
                                              04 0058E        RET                                                             ; 1813

; Routine Size:  1423 bytes,    Routine Base:  $CODE$ + 0000
```

```
ROUTINE PROPAGATE_ATTR (FIB) : L_NORM =

!++
!
! FUNCTIONAL DESCRIPTION:
!
!       This routine is called to propagate the file attributes from one
!       file to another.  This may be from one version of a file to another
!       version of the file (either higher or lower) or from the parent
!       directory to the newly created file.  The following attributes are
!       currently copied:
!            1)  File owner UIC
!            2)  File Access Control List (ACL)
!            3)  File protection (With some twiddling)
!
! CALLING SEQUENCE:
!       PROPAGATE_ATTR (ARG1)
!
! INPUT PARAMETERS:
!       ARG1: address of the supplied FIB
!
! IMPLICIT INPUTS:
!       PRIMARY_FCB: address of the new file's FCB
!       DIR_FCB: address of the directory file's FCB
!       OLD_VERSION_FID: FID of the old version of the file
!
! OUTPUT PARAMETERS:
!       none
!
! IMPLICIT OUTPUTS:
!       none
!
! ROUTINE VALUE:
!       1 if success
!       error code otherwise
!
! SIDE EFFECTS:
!       The attributes in the file header of the new file are modified
!       according to the attribute of the old version or parent directory.
!
!--

BEGIN

MAP
        FIB             : REF BBLOCK;           ! Address of the FIB

LOCAL
        STATUS,                                 ! Routine exit status
        WINDOW          : REF BBLOCK,           ! Address of created window
        FILE_FCB        : REF BBLOCK,           ! FCB for newly created file
        FCB             : REF BBLOCK;           ! Address of FCB from window

BIND_COMMON;

EXTERNAL ROUTINE
        READ_HEADER     : L_NORM,               ! read file header
```

```
2         SAVE_CONTEXT    : L_NORM,               ! Save reentrant context area
2         RESTORE_CONTEXT : L_NORM,               ! Restore reentrant context area
2         OPEN_FILE       : L_NORM,               ! Open a file
2         CLOSE_FILE      : L_NORM,               ! Close a file
2         CHECK_PROTECT   : L_NORM;               ! Perform a protection check
2
2 ENABLE PROPAGATE_HANDLER;
2
2
2 ! What we do depends on whether there is an old version present.
2 ! If it exists, we copy attributes from it. If not, we copy attributes
2 ! from the directory. If the old version is the same as the file being
2 ! entered, we do nothing, because the net effect would be a NOP anyway,
2 ! and we can't open the same file in both promary and secondary context.
2 !
2
2 IF CH$EQL (FID$C_LENGTH, OLD_VERSION_FID,
2            FID$C_LENGTH, PRIMARY_FCB[FCB$W_FID])
2 THEN RETURN 1;
2
2 IF .OLD_VERSION_FID[FID$W_NUM] NEQ 0
2 OR .OLD_VERSION_FID[FID$B_NMX] NEQ 0
2 THEN
3     BEGIN
3     LOCAL SAVCURRINDX;
3     SAVE_STATUS = .USER_STATUS;
3     FILE_FCB = .PRIMARY_FCB;                  ! Save created file FCB address
3     SAVCURRINDX = .CURR_LCKINDX;
3     SAVE_CONTEXT ();
3     WINDOW = OPEN_FILE (OLD_VERSION_FID, 2);
3     IF .WINDOW NEQ 0
3     THEN
4         BEGIN
4         FCB = .WINDOW[WCB$L_FCB];
4         IF CHECK_PROTECT (RDATT_ACCESS, 0, .PRIMARY_FCB,
4                           MAXU (.IO_PACKET[IRP$V_MODE], .FIB[FIB$B_AGENT_MODE]))
4         THEN
5             BEGIN
5
5 ! Restore the current lock index we had from primary context.
5 ! COPY_INFO may need to read the primary file's headers.
5 !
5
5             CURR_LCKINDX = .SAVCURRINDX;
5             STATUS = KERNEL_CALL (COPY_INFO, .FCB, .FILE_FCB, .FIB, 0);
5             CLOSE_FILE (.WINDOW);
5             RESTORE_CONTEXT ();
5             READ_HEADER (CURRENT_FIB[FIB$W_FID], .PRIMARY_FCB);
5             RETURN .STATUS;
4             END;
3         END;
3     RESTORE_CONTEXT ();
3     USER_STATUS = .SAVE_STATUS;
3     READ_HEADER (CURRENT_FIB[FIB$W_FID], .PRIMARY_FCB);
2     END;
2
2 ! If we make it this far, it means that: 1) there was no previous version of
```

```
                                                                 L 1
CREATE                                                     16-Sep-1984 00:06:06    VAX-11 Bliss-32 V4.0-742                    Page  26
V04-001                                                    14-Sep-1984 12:30:13    DISK$VMSMASTER:[F11X.SRC]CREATE.B32;2        (3)

;  940        1928  2  ! the file; 2) the previous version of the file is not accessable; or 3) the
;  941        1929  2  ! current process does not have access to the previous version.  In any of
;  942        1930  2  ! these cases, propagate as a newly created file.
;  943        1931  2
;  944        1932  2  STATUS = KERNEL_CALL (COPY_INFO, .DIR_FCB, .PRIMARY_FCB, .FIB, 1);
;  945        1933  2
;  946        1934  2  RETURN .STATUS;
;  947        1935  2
;  948        1936  1  END;                                          ! End of routine PROPAGATE_ATTR


                                                                    .EXTRN  OPEN_FILE, CLOSE_FILE

                                                  007C 00000 PROPAGATE_ATTR:
                                                                    .WORD   Save R2,R3,R4,R5,R6                       ; 1814
                            55         08    AA    9E 00002         MOVAB   8(BASE), R5                               ; 1865
                            54       014C    CA    9E 00006         MOVAB   332(BASE), R4
                            6D       00BF    CF    DE 0000B         MOVAL   7$, (FP)
                            50               65    D0 00010         MOVL    (R5), R0                                  ; 1888
          24   A0           64               06    29 00013         CMPC3   #6, (R4), 36(R0)
                            04               12       00018         BNEQ    1$
                            50               01    D0 0001A         MOVL    #1, R0                                    ; 1889
                                             04       0001D         RET
                            64               B5       0001E 1$:     TSTW    (R4)                                      ; 1891
                            08               12       00020         BNEQ    2$
                                       05    A4    95 00022         TSTB    5(R4)                                     ; 1892
                                             03    12 00025         BNEQ    2$
                                     008D    31       00027         BRW     5$
                  C0        AA         80    AA    D0 0002A 2$:     MOVL    -128(BASE), -64(BASE)                     ; 1896
                            56               65    D0 0002F         MOVL    (R5), FILE_FCB                            ; 1897
                            53         14    AA    D0 00032         MOVL    20(BASE), SAVCURRINDX                     ; 1898
               0000G        CF               00    FB 00036         CALLS   #0, SAVE_CONTEXT                          ; 1899
                                             02    DD 0003B         PUSHL   #2                                        ; 1900
                                             54    DD 0003D         PUSHL   R4
               0000G        CF               02    FB 0003F         CALLS   #2, OPEN_FILE
                            52               50    D0 00044         MOVL    R0, WINDOW
                            58               13       00047         BEQL    4$                                        ; 1901
                            54         18    A2    D0 00049         MOVL    24(WINDOW), FCB                           ; 1904
                            51         90    AA    D0 0004D         MOVL    -112(BASE), R1                            ; 1906
                            50         04    AC    D0 00051         MOVL    FIB, R0
   7E           0B   A1     02               00    EF 00055         EXTZV   #0, #2, 11(R1), -(SP)
                            6E         2E    A0    91 0005B         CMPB    46(R0), (SP)
                            04               1B       0005F         BLEQU   3$
                            6E         2E    A0    9A 00061         MOVZBL  46(R0), (SP)
                                             65    DD 00065 3$:     PUSHL   (R5)                                      ; 1905
                            7E               04    7D 00067         MOVQ    #4, -(SP)
               0000G        CF               04    FB 0006A         CALLS   #4, CHECK_PROTECT
                            2F               50    E9 0006F         BLBC    R0, 4$
                  14        AA               53    D0 00072         MOVL    SAVCURRINDX, 20(BASE)                     ; 1914
                                             7E    D4 00076         CLRL    -(SP)                                     ; 1915
                                       04    AC    DD 00078         PUSHL   FIB
                                     0050    8F    BB 0007B         PUSHR   #^M<R4,R6>
               0000V        CF               04    FB 0007F         CALLS   #4, COPY_INFO
                            53               50    D0 00084         MOVL    R0, STATUS
                                             52    DD 00087         PUSHL   WINDOW                                    ; 1916
               0000G        CF               01    FB 00089         CALLS   #1, CLOSE_FILE
```

```
                                                                M 1
CREATE                                                    16-Sep-1984 00:06:06    VAX-11 Bliss-32 V4.0-742                Page  27
V04-001                                                   14-Sep-1984 12:30:13    DISK$VMSMASTER:[F11X.SRC]CREATE.B32;2       (3)

                      0000G  CF            00  FB 0008E          CALLS   #0, RESTORE_CONTEXT                                ; 1917
                                           65  DD 00093          PUSHL   (R5)                                               ; 1918
               7E        10  AA            04  C1 00095          ADDL3   #4, 16(BASE), -(SP)                                ;
                      0000G  CF            02  FB 0009A          CALLS   #2, READ_HEADER                                    ;
                                           29  11 0009F          BRB     6$                                                 ; 1919
                      0000G  CF            00  FB 000A1 4$:      CALLS   #0, RESTORE_CONTEXT                                ; 1922
                         80  AA      C0    AA  D0 000A6          MOVL    -64(BASE), -128(BASE)                              ; 1923
                                           65  DD 000AB          PUSHL   (R5)                                               ; 1924
               7E        10  AA            04  C1 000AD          ADDL3   #4, 16(BASE), -(SP)                                ;
                      0000G  CF            02  FB 000B2          CALLS   #2, READ_HEADER                                    ;
                                           01  DD 000B7 5$:      PUSHL   #1                                                 ; 1932
                                     04    AC  DD 000B9          PUSHL   FIB                                                ;
                                           65  DD 000BC          PUSHL   (R5)                                               ;
                                   00D0    CA  DD 000BE          PUSHL   208(BASE)                                          ;
                      0000V  CF            04  FB 000C2          CALLS   #4, COPY_INFO                                      ;
                             53            50  D0 000C7          MOVL    R0, STATUS                                         ;
                             50            53  D0 000CA 6$:      MOVL    STATUS, R0                                         ; 1934
                                               04 000CD          RET                                                        ; 1936
                                             0000 000CE 7$:      .WORD   Save nothing                                       ; 1865
                                           7E  D4 000D0          CLRL    -(SP)                                              ;
                                           5E  DD 000D2          PUSHL   SP                                                 ;
                             7E      04    AC  7D 000D4          MOVQ    4(AP), -(SP)                                       ;
                      0000V  CF            03  FB 000D8          CALLS   #3, PROPAGATE_HANDLER                              ;
                                               04 000DD          RET                                                        ;

; Routine Size:  222 bytes,    Routine Base:  $CODE$ + 058F
```

```
ROUTINE PROPAGATE_HANDLER (SIGNAL, MECHANISM) =

!++
!
! FUNCTIONAL DESCRIPTION:
!
!       This routine is the condition handler for the file attribute
!       propagation.  It unwinds and returns a value of zero to
!       indicate a failure.
!
! CALLING SEQUENCE:
!       PROPAGATE_HANDLER (ARG1, ARG2)
!
! INPUT PARAMETERS:
!       ARG1: address of the signal array
!       ARG2: address of the mechanism array
!
! IMPLICIT INPUTS:
!       none
!
! OUTPUT PARAMETERS:
!       none
!
! IMPLICIT OUTPUTS:
!       Value of the routine that caused the exception is returned as zero.
!
! ROUTINE VALUE:
!       SS$_RESIGNAL or none
!
! SIDE EFFECTS:
!       none
!
!--

BEGIN

MAP
        SIGNAL          : REF BBLOCK,           ! Signal argument array
        MECHANISM       : REF BBLOCK;           ! Mechanism argument array

! If the condition is change mode to user (ERR_EXIT) set the saved value
! of R0 to zero (indicating a failure) and unwind to the PROPAGATE_ATTR
! routine.

IF .SIGNAL[CHF$L_SIG_NAME] EQL SS$_CMODUSER
THEN
    BEGIN
    MECHANISM[CHF$L_MCH_SAVR0] = 0;             ! Note failure
    $UNWIND (DEPADR = MECHANISM[CHF$L_MCH_DEPTH],
             NEWPC = 0);
    END;

RETURN SS$_RESIGNAL;                            ! Ignored when unwinding

END;                                            ! End of routine PROPAGATE_HANDLER
```

```
                                                                         .EXTRN  SYS$UNWIND

                                              0000 00000 PROPAGATE_HANDLER:
                                                                         .WORD   Save nothing                              ; 1937
                        50         04    AC    D0 00002                  MOVL    SIGNAL, R0                                ; 1981
              00000424  8F         04    A0    D1 00006                  CMPL    4(R0), #1060                              ;
                                         15    12 0000E                  BNEQ    1$                                        ;
                        50         08    AC    D0 00010                  MOVL    MECHANISM, R0                             ; 1984
                                   0C    A0    D4 00014                  CLRL    12(R0)                                    ;
                                         7E    D4 00017                  CLRL    -(SP)                                     ; 1986
          7E         08 AC               08    C1 00019                  ADDL3   #8, MECHANISM, -(SP)                      ;
              00000000G 00               02    FB 0001E                  CALLS   #2, SYS$UNWIND                            ;
                        50       0918    8F    3C 00025 1$:              MOVZWL  #2328, R0                                 ; 1989
                                               04 0002A                  RET                                               ; 1991

; Routine Size:  43 bytes,    Routine Base:  $CODE$ + 0660
```

```
1 ROUTINE COPY_INFO (OLD_FILE_FCB, NEW_FILE_FCB, FIB, NEW_FILE) : L_NORM =
1
1 !++
1 !
1 ! FUNCTIONAL DESCRIPTION:
1 !
1 !       This routine actually copies the propagated information.  This
1 !       routine must be called in kernel mode.  The propagation takes
1 !       place according to the following rules:
1 !
1 !       UIC     - For a newly created file, the file takes the UIC of the
1 !                 creator unless the creator has resource rights to the
1 !                 owner of the directory.  In which case, the UIC of the
1 !                 directory owner is used.  For a new version of an
1 !                 existing file, the UIC of the creator is used if the
1 !                 creator does not have resource rightss to either the
1 !                 old version owner or the directory owner.  If the
1 !                 creator has resource rights to the old version owner,
1 !                 that UIC is used.  If not, and the creator has resource
1 !                 rights to the directory owner, the directory owner
1 !                 UIC is used.
1 !
1 !       Protection - For a newly created file, the protection is taken from
1 !                 the directory default protection ACE, if it exists.  If
1 !                 it does not exist, the process default protection is used.
1 !                 For a new version of an existing file, the protection is
1 !                 taken from the old version of the file.
1 !
1 !       ACL     - For a newly created file, the ACL is taken from the
1 !                 directory default ACL.  If no directory default ACL
1 !                 exists, no ACL is propagated.  For a new version of
1 !                 an existing file, the ACL is taken from the old
1 !                 version of the file.
1 !
1 ! CALLING SEQUENCE:
1 !       COPY_INFO (ARG1, ARG2, ARG3, ARG4)
1 !
1 ! INPUT PARAMETERS:
1 !       ARG1: address of the old file's FCB (if one)
1 !       ARG2: address of the new file's FCB
1 !       ARG3: address of the FIB
1 !       ARG4: 1 if defaults for a new file
1 !             0 if defaults for a new version of an existing file
1 !
1 ! IMPLICIT INPUTS:
1 !       DIR_FCB: address of parent directory FCB
1 !
1 ! OUTPUT PARAMETERS:
1 !       none
1 !
1 ! IMPLICIT OUTPUTS:
1 !       none
1 !
1 ! ROUTINE VALUE:
1 !       1
1 !
1 ! SIDE EFFECTS:
```

```
1 !       The ACL building routine is called to update the new file's file
1 !       headers with the copied ACL.
1 !
1 !--
1
2 BEGIN
2
2 MAP
2         OLD_FILE_FCB    : REF BBLOCK,           ! Address of old file's FCB
2         NEW_FILE_FCB    : REF BBLOCK,           ! Address of new file's FCB
2         FIB             : REF BBLOCK;           ! Address of the FIB
2
2 LINKAGE
2         L_SEARCH_RIGHT  = JSB (REGISTER = 2, REGISTER = 4;
2                                REGISTER = 1, REGISTER = 5),
2
2         L_FINDACL       = JSB (REGISTER = 3, REGISTER = 5,
2                                REGISTER = 6, REGISTER = 1;
2                                REGISTER = 1);
2
2 LOCAL
2         PCB             : REF BBLOCK,           ! PCB address of I/O packet owner
2         ARB             : REF BBLOCK,           ! Access rights block address
2         IDENTIFIER,                             ! Identifier being sought
2         RIGHTS_DESC,                            ! Rights list descr addr
2         ID_FOUND        : REF BBLOCK,           ! Addr of ID found
2         RIGHTS_SEG      : REF BBLOCK,           ! Addr of rights segment
2         ACE_ADDRESS     : REF BBLOCK,           ! Pointer to default protection ACE
2         OLD_ACL_SEGMENT : REF BBLOCK,           ! Address of old ACL segment
2         NEW_ACL_SEGMENT : REF BBLOCK;           ! Address of new ACL segment
2
2 EXTERNAL
2         SCH$GL_PCBVEC   : REF VECTOR ADDRESSING_MODE (ABSOLUTE);        ! PCB vector
2
2 BIND_COMMON;
2
2 EXTERNAL ROUTINE
2         EXE$SEARCH_RIGHT        : L_SEARCH_RIGHT ADDRESSING_MODE (GENERAL),
2                                                 ! Seach for specified ID
2         EXE$FINDACL     : L_FINDACL ADDRESSING_MODE (GENERAL),  ! Locate an ACE
2         ACL_INIT_QUEUE  : ADDRESSING_MODE (GENERAL),    ! Initialize ACL queue
2         ACL_COPYACL     : L_NORM,               ! Routine to propagate desired ACEs
2         CHANGE_OWNER    : L_NORM;               ! Change file owner UIC
2
2 ENABLE PROPAGATE_HANDLER;
2
2 ! Initialize some necessary pointers.
2
2 PCB = .SCH$GL_PCBVEC[.(IO_PACKET[IRP$L_PID])<0,16>];
2 ARB = .IO_PACKET[IRP$L_ARB];
2 RIGHTS_DESC = ARB[ARB$L_RIGHTSLIST];
2
2 ! If is a new file, propagate the information from the parent directory
2 ! or the creator of the file as necessary.
2
2 IF .NEW_FILE
2 THEN
```

```
; 1120        2106  3        BEGIN
; 1121        2107  3        IF .DIR_FCB NEQ 0
; 1122        2108  3        THEN
; 1123        2109  4            BEGIN
; 1124        2110  4            CHANGE_OWNER (.DIR_FCB[FCB$L_FILEOWNER], .NEW_FILE_FCB, 0);
; 1125        2111  4            NEW_FILE_FCB[FCB$W_FILEPROT] = .PCB[PCB$L_DEFPROT];
; 1126        2112  4            IF .BBLOCK[DIR_FCB[FCB$R_ORB], ORB$V_ACL_QUEUE]
; 1127        2113  4            THEN
; 1128        2114  5                BEGIN
; 1129        2115  5                OLD_ACL_SEGMENT = .DIR_FCB[FCB$L_ACLFL];
; 1130        2116  5                UNTIL .OLD_ACL_SEGMENT EQLA DIR_FCB[FCB$L_ACLFL]
; 1131        2117  5                DO
; 1132        2118  6                    BEGIN
; 1133        2119  6                    ACE_ADDRESS = 0;
; 1134        2120  6                    IF EXE$FINDACL (ACE$C_DIRDEF,
; 1135        2121  6                                    .OLD_ACL_SEGMENT[ACL$W_SIZE] - ACL$C_LENGTH,
; 1136        2122  6                                    OLD_ACL_SEGMENT[ACL$L_LIST], .ACE_ADDRESS;
; 1137        2123  6                                    ACE_ADDRESS)
; 1138        2124  6                    THEN
; 1139        2125  7                        BEGIN
; 1140        2126  7                        (NEW_FILE_FCB[FCB$W_FILEPROT])<0,4> = .ACE_ADDRESS[ACE$L_SYS_PROT];
; 1141        2127  7                        (NEW_FILE_FCB[FCB$W_FILEPROT])<4,4> = .ACE_ADDRESS[ACE$L_OWN_PROT];
; 1142        2128  7                        (NEW_FILE_FCB[FCB$W_FILEPROT])<8,4> = .ACE_ADDRESS[ACE$L_GRP_PROT];
; 1143        2129  7                        (NEW_FILE_FCB[FCB$W_FILEPROT])<12,4> = .ACE_ADDRESS[ACE$L_WOR_PROT];
; 1144        2130  7                        EXITLOOP;
; 1145        2131  6                        END;
; 1146        2132  6                    OLD_ACL_SEGMENT = .OLD_ACL_SEGMENT[ACL$L_FLINK];
; 1147        2133  5                    END;
; 1148        2134  5                ACL_INIT_QUEUE (NEW_FILE_FCB[FCB$R_ORB]);
; 1149        2135  6                RETURN ACL_COPYACL (.DIR_FCB, .NEW_FILE_FCB, (IF .FIB[FIB$V_DIRACL]
; 1150        2136  5                                                              THEN 2 ELSE 1));
; 1151        2137  4                END;
; 1152        2138  4            RETURN 1;
; 1153        2139  3            END;
; 1154        2140  2        END;
; 1155        2141  2
; 1156        2142  2    ! If it is a new version of an existing file, propagate the information
; 1157        2143  2    ! from the old version of the file, the parent directory, or the creator
; 1158        2144  2    ! of the file.
; 1159        2145  2
; 1160        2146  2    ! First, set the owner of the new file.
; 1161        2147  2
; 1162        2148  2    IF NOT CHANGE_OWNER (.OLD_FILE_FCB[FCB$L_FILEOWNER], .NEW_FILE_FCB, 0)
; 1163        2149  2    AND .DIR_FCB NEQ 0
; 1164        2150  2    THEN CHANGE_OWNER (.DIR_FCB[FCB$L_FILEOWNER], .NEW_FILE_FCB, 0);
; 1165        2151  2
; 1166        2152  2    ! Next, propagate the protection from the old file.
; 1167        2153  2
; 1168        2154  2    NEW_FILE_FCB[FCB$W_FILEPROT] = .OLD_FILE_FCB[FCB$W_FILEPROT];
; 1169        2155  2
; 1170        2156  2    ! Last, but not least, copy the ACL (excluding ACEs marked as NOPROPAGATE).
; 1171        2157  2
; 1172        2158  2    IF .BBLOCK[OLD_FILE_FCB[FCB$R_ORB], ORB$V_ACL_QUEUE]
; 1173        2159  2    THEN
; 1174        2160  3        BEGIN
; 1175        2161  3        ACL_INIT_QUEUE (NEW_FILE_FCB[FCB$R_ORB]);
; 1176        2162  3        RETURN ACL_COPYACL (.OLD_FILE_FCB, .NEW_FILE_FCB, 2)
```

```
                                        F  2
CREATE                                  16-Sep-1984 00:06:06    VAX-11 Bliss-32 V4.0-742            Page  33
V04-001                                 14-Sep-1984 12:30:13    DISK$VMSMASTER:[F11X.SRC]CREATE.B32;2    (5)

; 1177         2163  3      END
; 1178         2164  2 ELSE RETURN 1;
; 1179         2165  2
; 1180         2166  1 END;                                            ! End of routine COPY_INFO


                                                         .EXTRN  EXE$SEARCH_RIGHT
                                                         .EXTRN  EXE$FINDACL, ACL_COPYACL
                                                         .EXTRN  CHANGE_OWNER

                                        0BFC 00000 COPY_INFO:
                                                         .WORD   Save R2,R3,R4,R5,R6,R7,R8,R9,R11        ; 1992
                        58     0000G  CF  9E 00002       MOVAB   CHANGE_OWNER, R8                        ;
                        57 00000000G  00  9E 00007       MOVAB   ACL_INIT_QUEUE, R7                      ;
                        54      00D0  CA  9E 0000E       MOVAB   208(BASE), R4                           ; 2081
                        6D      011F  CF  DE 00013       MOVAL   13$, (FP)                               ;
                        51 00000000G  9F  D0 00018       MOVL    @#SCH$GL_PCBVEC, R1                     ; 2097
                        50        90  AA  D0 0001F       MOVL    -112(BASE), R0                          ;
                        50            0C  C0 00023       ADDL2   #12, R0                                 ;
                        50            60  3C 00026       MOVZWL  (R0), R0                                ;
                        52          6140  D0 00029       MOVL    (R1)[R0], PCB                           ;
                        50        90  AA  D0 0002D       MOVL    -112(BASE), R0                          ; 2098
                        50        58  A0  D0 00031       MOVL    88(R0), ARB                             ;
                        50            20  C0 00035       ADDL2   #32, RIGHTS_DESC                        ; 2099
                        03        10  AC  E8 00038       BLBS    NEW_FILE, 2$                            ; 2104
                                    00A5  31 0003C 1$:   BRW     9$                                      ;
                        50            64  D0 0003F 2$:   MOVL    (R4), R0                                ; 2107
                                      F8  13 00042       BEQL    1$                                      ;
                                      7E  D4 00044       CLRL    -(SP)                                   ; 2110
                                  08  AC  DD 00046       PUSHL   NEW_FILE_FCB                            ;
                                  58  A0  DD 00049       PUSHL   88(R0)                                  ;
                        68            03  FB 0004C       CALLS   #3, CHANGE_OWNER                        ;
                        50        08  AC  D0 0004F       MOVL    NEW_FILE_FCB, R0                        ; 2111
                     70 A0      0114  C2  B0 00053       MOVW    276(PCB), 112(R0)                       ;
                        50            64  D0 00059       MOVL    (R4), R0                                ; 2112
               03    63 A0            01  E0 0005C       BBS     #1, 99(R0), 3$                          ;
                                    00CE  31 00061       BRW     12$                                     ;
                        52      0080  C0  D0 00064 3$:   MOVL    128(R0), OLD_ACL_SEGMENT                ; 2115
               50       64  00000080  8F  C1 00069 4$:   ADDL3   #128, (R4), R0                          ; 2116
                        50            52  D1 00071       CMPL    OLD_ACL_SEGMENT, R0                     ;
                                      4C  13 00074       BEQL    6$                                      ;
                                      51  D4 00076       CLRL    ACE_ADDRESS                             ; 2119
                        56        0C  A2  9E 00078       MOVAB   12(OLD_ACL_SEGMENT), R6                 ; 2122
                        55        08  A2  3C 0007C       MOVZWL  8(OLD_ACL_SEGMENT), R5                  ; 2121
                        55            0C  C2 00080       SUBL2   #12, R5                                 ;
                        53            09  D0 00083       MOVL    #9, R3                                  ; 2122
                           00000000G  00  16 00086       JSB     EXE$FINDACL                             ;
                        2E            50  E9 0008C       BLBC    R0, 5$                                  ;
                        50        08  AC  D0 0008F       MOVL    NEW_FILE_FCB, R0                        ; 2126
    70 A0      04       00        08  A1  F0 00093       INSV    8(ACE_ADDRESS), #0, #4, 112(R0)         ;
                        50        08  AC  D0 0009A       MOVL    NEW_FILE_FCB, R0                        ; 2127
    70 A0      04       04        0C  A1  F0 0009E       INSV    12(ACE_ADDRESS), #4, #4, 112(R0)        ;
                        50        08  AC  D0 000A5       MOVL    NEW_FILE_FCB, R0                        ; 2128
    71 A0      04       00        10  A1  F0 000A9       INSV    16(ACE_ADDRESS), #0, #4, 113(R0)        ;
                        50        08  AC  D0 000B0       MOVL    NEW_FILE_FCB, R0                        ; 2129
    71 A0      04       04        14  A1  F0 000B4       INSV    20(ACE_ADDRESS), #4, #4, 113(R0)        ;
```

```
                                                          G 2
CREATE                                            16-Sep-1984 00:06:06    VAX-11 Bliss-32 V4.0-742              Page  34
V04-001                                           14-Sep-1984 12:30:13    DISK$VMSMASTER:[F11X.SRC]CREATE.B32;2  (5)

                                      05  11 000BB        BRB     6$                                         ; 2125
                  52                  62  D0 000BD 5$:    MOVL    (OLD_ACL_SEGMENT), OLD_ACL_SEGMENT         ; 2132
                                      A7  11 000C0        BRB     4$                                         ; 2116
        7E      08      AC 00000058   8F  C1 000C2 6$:    ADDL3   #88, NEW_FILE_FCB, -(SP)                   ; 2134
                                  67  01  FB 000CB        CALLS   #1, ACL_INIT_QUEUE                         ;
                          50      0C  AC  D0 000CE        MOVL    FIB, R0                                    ; 2135
        04      38                A0  02  E1 000D2        BBC     #2, 56(R0), 7$                             ;
                                      02  DD 000D7        PUSHL   #2                                         ;
                                      02  11 000D9        BRB     8$                                         ;
                                      01  DD 000DB 7$:    PUSHL   #1                                         ;
                                  08  AC  DD 000DD 8$:    PUSHL   NEW_FILE_FCB                               ;
                                      64  DD 000E0        PUSHL   (R4)                                       ;
                                      48  11 000E2        BRB     11$                                        ;
                                      7E  D4 000E4 9$:    CLRL    -(SP)                                      ; 2148
                                  08  AC  DD 000E6        PUSHL   NEW_FILE_FCB                               ;
                          50      04  AC  D0 000E9        MOVL    OLD_FILE_FCB, R0                           ;
                                  58  A0  DD 000ED        PUSHL   88(R0)                                     ;
                          68          03  FB 000F0        CALLS   #3, CHANGE_OWNER                           ;
                          12          50  E8 000F3        BLBS    R0, 10$                                    ;
                                      64  D5 000F6        TSTL    (R4)                                       ; 2149
                                      0E  13 000F8        BEQL    10$                                        ;
                                      7E  D4 000FA        CLRL    -(SP)                                      ; 2150
                                  08  AC  DD 000FC        PUSHL   NEW_FILE_FCB                               ;
                          50          64  D0 000FF        MOVL    (R4), R0                                   ;
                                  58  A0  DD 00102        PUSHL   88(R0)                                     ;
                          68          03  FB 00105        CALLS   #3, CHANGE_OWNER                           ;
                          50      04  AC  7D 00108 10$:   MOVQ    OLD_FILE_FCB, R0                           ; 2154
                  70      A1      70  A0  B0 0010C        MOVW    112(R0), 112(R1)                           ;
                          50      04  AC  D0 00111        MOVL    OLD_FILE_FCB, R0                           ; 2158
        18      63                A0  01  E1 00115        BBC     #1, 99(R0), 12$                            ;
        7E      08      AC 00000058   8F  C1 0011A        ADDL3   #88, NEW_FILE_FCB, -(SP)                   ; 2161
                          67          01  FB 00123        CALLS   #1, ACL_INIT_QUEUE                         ;
                                      02  DD 00126        PUSHL   #2                                         ; 2162
                          7E      04  AC  7D 00128        MOVQ    OLD_FILE_FCB, -(SP)                        ;
               0000G      CF          03  FB 0012C 11$:   CALLS   #3, ACL_COPYACL                            ;
                                          04 00131        RET                                                ; 2164
                          50          01  D0 00132 12$:   MOVL    #1, R0                                     ;
                                          04 00135        RET                                                ; 2166
                                        0000 00136 13$:   .WORD   Save nothing                               ; 2081
                                      7E  D4 00138        CLRL    -(SP)                                      ;
                                      5E  DD 0013A        PUSHL   SP                                         ;
                          7E      04  AC  7D 0013C        MOVQ    4(AP), -(SP)                               ;
                FE90      CF          03  FB 00140        CALLS   #3, PROPAGATE_HANDLER                      ;
                                          04 00145        RET                                                ;

; Routine Size:  326 bytes,    Routine Base:  $CODE$ + 0698


; 1181          2167  1
; 1182          2168  1 END
; 1183          2169  0 ELUDOM
;                                PSECT SUMMARY
;
;       Name                    Bytes                     Attributes
;
;  $CODE$                            2014  NOVEC,NOWRT,  RD ,  EXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)


;                           Library Statistics
;
;                                            -------- Symbols --------       Pages       Processing
;       File                                 Total     Loaded   Percent       Mapped      Time
;
;  _$255$DUA28:[SYSLIB]LIB.L32;1             18619       140         0        1000          00:01.9



;                                  COMMAND QUALIFIERS
;
;       BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS$:CREATE/OBJ=OBJ$:CREATE MSRC$:CREATE/UPDATE=(ENH$:CREATE)
;
; Size:           2014 code + 0 data bytes
; Run Time:          01:09.9
; Elapsed Time:      02:20.0
; Lines/CPU Min:      1862
; Lexemes/CPU-Min: 37116
; Memory Used:  549 pages
; Compilation Complete
```

0168 AH-BT13A-SE
VAX/VMS V4.0

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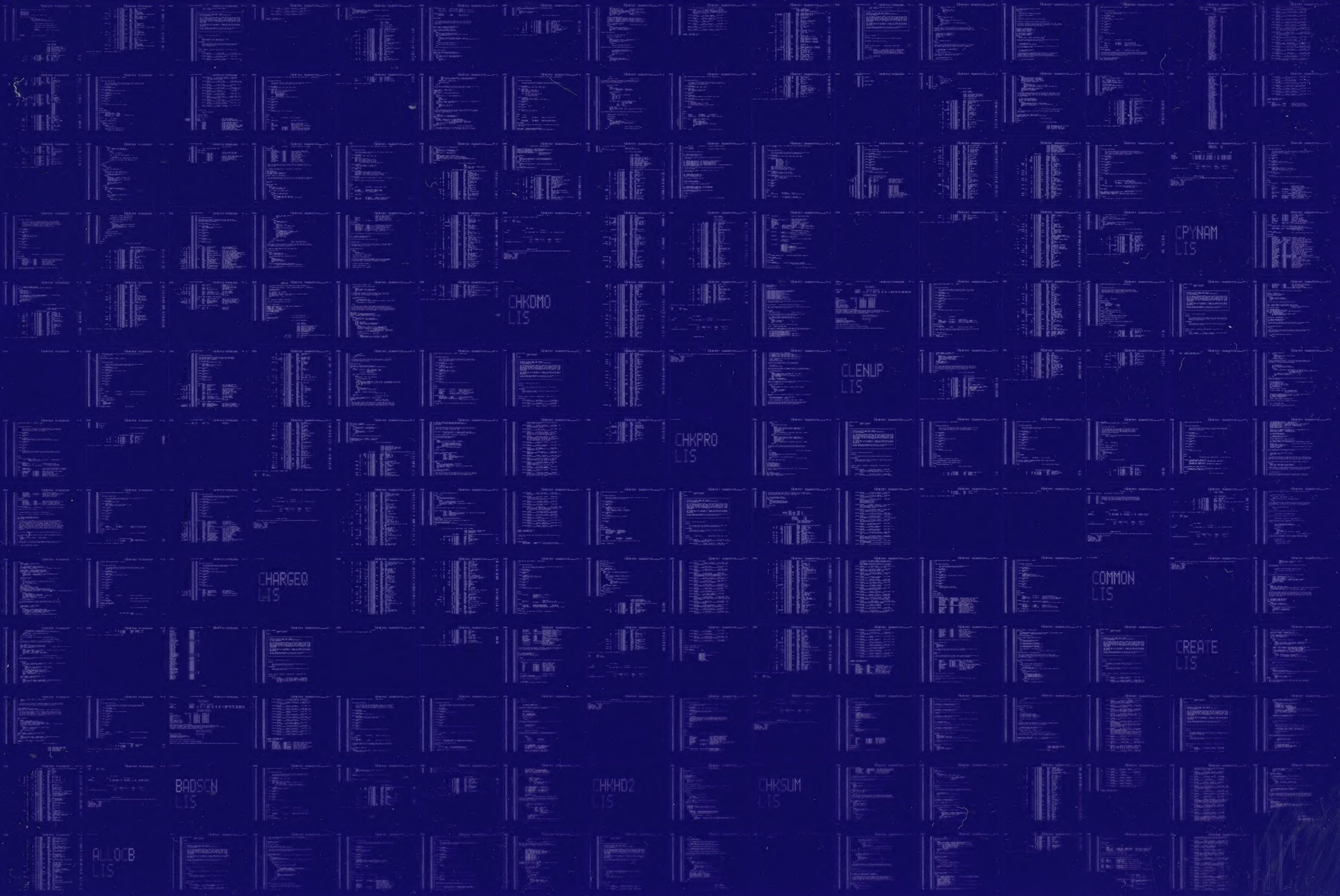
CPYNAM
LIS

CHKDMO
LIS

CLENUP
LIS

CHKPRO
LIS

CHARGEQ
LIS

COMMON
LIS

CREATE
LIS

BADSCN
LIS

CHKHD2
LIS

CHKSUM
LIS

ALLOCB
LIS

0169 AH-BT13A-SE
VAX/VMS V4.0

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